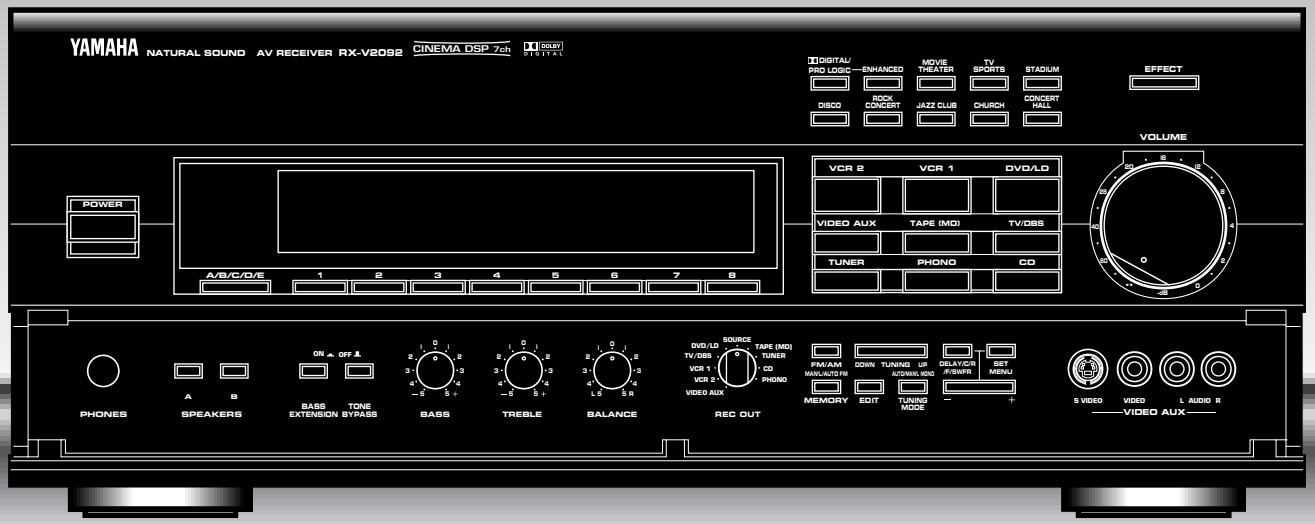
YAMAHA

RX-V2092



Natural Sound AV Receiver
Récepteur audiovisuel “Son Naturel”

OWNER’S MANUAL
MODE D’EMPLOI

SAFETY INSTRUCTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK), NO USER-SERVICEABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

- Explanation of Graphical Symbols

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

1 Read Instructions – All the safety and operating instructions should be read before the unit is operated.

2 Retain Instructions – The safety and operating instructions should be retained for future reference.

3 Heed Warnings – All warnings on the unit and in the operating instructions should be adhered to.

4 Follow Instructions – All operating and other instructions should be followed.

5 Water and Moisture – The unit should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

6 Carts and Stands – The unit should be used only with a cart or stand that is recommended by the manufacturer.

6A A unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.

7 Wall or Ceiling Mounting – The unit should be mounted to a wall or ceiling only as recommended by the manufacturer.

8 Ventilation – The unit should be situated so that its location or position does not interfere with its proper ventilation. For example, the unit should not be situated on a bed, sofa, rug, or similar surface, that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

9 Heat – The unit should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.

10 Power Sources – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.

11 Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

12 Cleaning – The unit should be cleaned only as recommended by the manufacturer.

13 Nonuse Periods – The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.

14 Object and Liquid Entry – Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the unit.

15 Damage Requiring Service – The unit should be serviced by qualified service personnel when:

A. The power-supply cord or the plug has been damaged;
or

B. Objects have fallen, or liquid has been spilled into the unit;
or

C. The unit has been exposed to rain;
or

D. The unit does not appear to operate normally or exhibits a marked change in performance;
or

E. The unit has been dropped, or the cabinet damaged.

16 Servicing – The user should not attempt to service the unit beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.

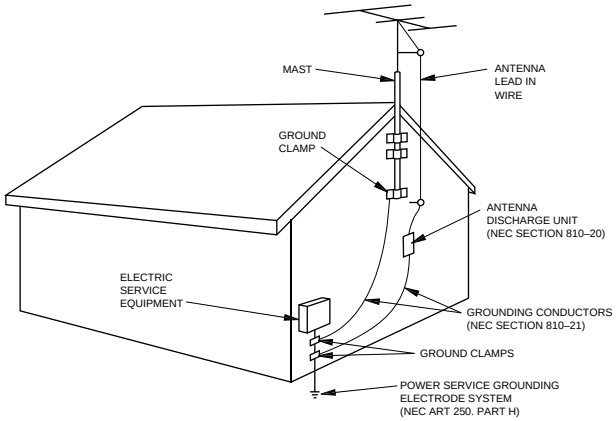
17 Power Lines – An outdoor antenna should be located away from power lines.

18 Grounding or Polarization – Precautions should be taken so that the grounding or polarization is not defeated.

19 For US customers only:
Outdoor Antenna Grounding – If an outside antenna is connected to this unit, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

EXAMPLE OF ANTENNA GROUNDING


MAST
ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810–20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810–21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250. PART H)

NEC – NATIONAL ELECTRICAL CODE

We Want You Listening For A Lifetime
(for US customers only)

YAMAHA and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion – and, most importantly, without affecting your sensitive hearing. Since hearing damage from loud sounds is often undetectable until it is too late, YAMAHA and the Electronic Industries Association's Consumer Electronics Group recommend you to avoid prolonged exposure from excessive volume levels.

SPECIAL NOTES FOR FCC COMPOSITE DEVICE (for US customers only)

This device is a composite system. The digital device component may not cause harmful interference.

FCC INFORMATION (for US customers only)

1. **IMPORTANT NOTICE : DO NOT MODIFY THIS UNIT!**
   This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

2. **IMPORTANT** : When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. **NOTE** : This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices.
   This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices.
   Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

   Relocate either this product or the device that is being affected by the interference.

   Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

   In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.

   If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Electronics Corp., U.S.A. 6660 Orangethorpe Ave, Buena Park, CA 90620.

   The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

Congratulations!

You are the proud owner of a Yamaha Digital Sound Field Processing (DSP) System—an extremely sophisticated audio component. The DSP system takes full advantage of Yamaha's undisputed leadership in the field of digital audio processing to bring you a whole new world of listening experiences. Follow the instructions in this manual carefully when setting up your system, and the DSP system will sonically transform your room into a wide range of listening environments—anything from a famous concert hall to a cozy jazz club. In addition, you get incredible realism from Dolby-Surround encoded video sources using the built-in Dolby Pro Logic Surround Decoder and Dolby Digital (AC-3) Decoder.

Seven built-in channels of amplification on this model mean that no additional amplifiers are required to enjoy advanced digital sound field processing.

Rather than tell you about the wonders of digital sound field processing, however, let's get right down to the business of setting up the system and trying out its many capabilities. Please read this operation manual carefully and store it in a safe place for later reference.

PRECAUTIONS

1. PLEASE READ THIS MANUAL CAREFULLY

To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.

2. AVOID EXCESSIVE HEAT, HUMIDITY, DUST AND VIBRATION

Keep the unit away from locations where it is likely to be exposed to high temperatures or humidity—such as near radiators, stoves, etc. Also avoid locations which are subject to excessive dust accumulation or vibration which could cause mechanical damage.

3. INSTALL THE UNIT IN WELL-VENTILATED CONDITION

The openings on the cabinet assure proper ventilation of the unit. If these openings are obstructed, the temperature inside the cabinet will rise rapidly. Therefore, avoid placing objects against these openings, and install the unit in well-ventilated condition. Make sure to allow a space of at least 10 cm behind, 20 cm on the both sides and 30 cm above the top panel of the unit. Otherwise it may not only damage the unit, but also cause fire.

4. KEEP THE AC POWER PLUG DISCONNECTED DURING VACATION ETC.

When not planning to use this unit for long periods of time (ie., vacation, etc.), disconnect the AC power plug from the wall outlet.

5. AVOID PHYSICAL SHOCKS

Strong physical shocks to the unit can cause damage. Handle it with care.

6. DO NOT OPEN THE UNIT OR ATTEMPT REPAIRS OR MODIFICATIONS YOURSELF

This product contains no user-serviceable parts. Refer all maintenance to qualified Yamaha service personnel. Opening the unit and/or tampering with the internal circuitry will make servicing difficult and will endanger you and your unit.

7. MAKE SURE POWER IS OFF BEFORE MAKING OR REMOVING CONNECTIONS

Always turn power OFF prior to connecting or disconnecting cables. This is important to prevent damage to the unit itself as well as other connected equipment.

8. USE THIS UNIT PROPERLY

Do not use force on switches, controls or connection wires. When moving the unit, first disconnect the power plug and the wires connected to other equipment. Never pull the wires themselves.

9. TAKE CARE OF THE VOLUME CONTROL SETTING

Always set the VOLUME control to "– ∞" before starting the audio source play. Increase the volume gradually to an appropriate level after playback has been started.

10. HANDLE CABLES CAREFULLY

Always plug and unplug cables—including the AC cord—by gripping the connector, not the cord.

11. PREVENT LIGHTNING DAMAGE

To prevent lightning damage, disconnect the AC power plug and disconnect the antenna cable when there is an electrical storm.

12. CLEAN WITH A SOFT DRY CLOTH

Never use solvents such as benzine or thinner to clean the unit. Wipe clean with a soft, dry cloth.

13. USE THIS UNIT WITH THE CORRECT VOLTAGE

The voltage to be used must be the same as that specified on this unit. Using this unit with a higher voltage than that which is specified is dangerous and may result in a fire or other type of accident causing damage. YAMAHA will not be held responsible for any damage resulting from use of this unit with a voltage other than that which is specified.

IMPORTANT!
Please record the model and serial number of your unit in the space below.

Model:

Serial No.:

The serial number is located on the rear of the unit. Retain this Owner's Manual in a safe place for future reference.

Voltage Selector (General Model only)
The voltage selector on the rear panel of this unit must be set for your local mains voltage BEFORE plugging into the AC mains supply. Voltages are 110/120/220/240 AC, 50/60 Hz.

WARNING
To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.

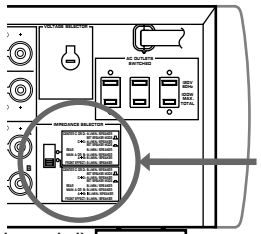
CAUTION (FOR CANADA MODEL)
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT AND FULLY INSERT.

FOR CANADIAN CUSTOMER
THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

The apparatus is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the apparatus itself is turned off.

WARNING
Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on, otherwise this unit may be damaged.

IF THIS UNIT FAILS TO TURN ON WHEN THE POWER SWITCH IS PRESSED
The **IMPEDANCE SELECTOR** switch may not be set to either end closely. If so, set the switch to either end closely.



(General model)

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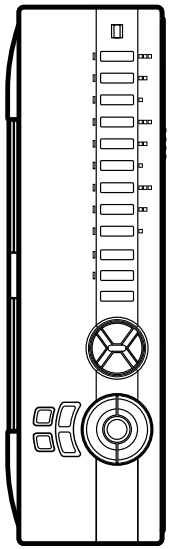
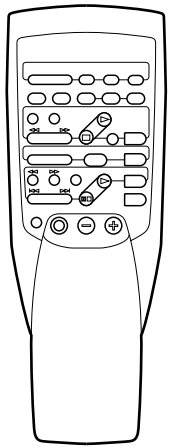
GETTING STARTED

Unpacking

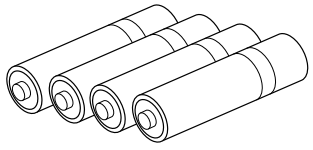
If you haven't already done so, carefully remove this unit and its accessories from the box and wrapping material. You should find the unit itself and the following accessories.



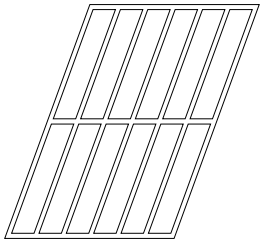
Remote control (for the main room)



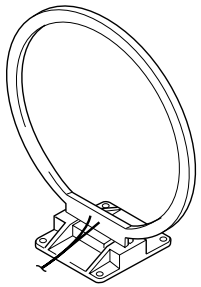
Room 2 remote control unit



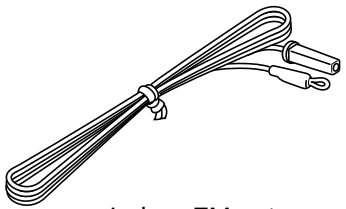
Batteries



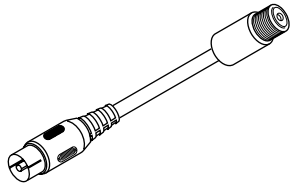
User function stickers



AM loop antenna



Indoor FM antenna



Antenna adapter
(U.S.A. and Canada models only)

Installing the Remote Control Unit Batteries

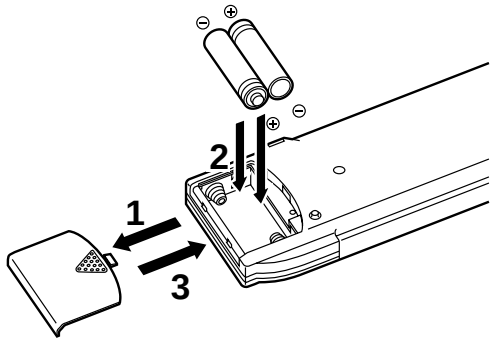
Since the remote control unit will be used for many of this unit's control operations, you should begin by installing the supplied batteries.

1. Turn the remote control unit over and slide the battery compartment cover downward in the direction of the arrow.

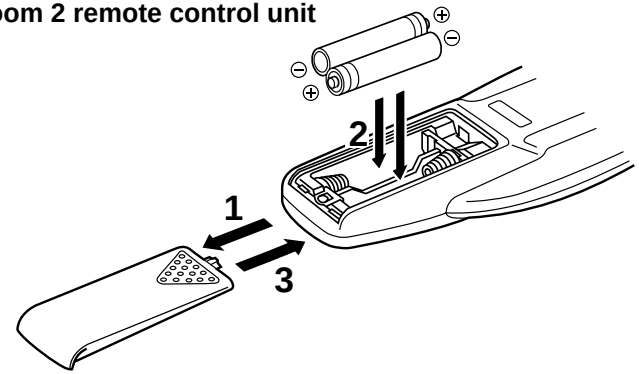
2. Insert the batteries (LR6, AA, UM-3 type), being careful to align them with the polarity markings on the inside of the battery compartment.

3. Close the battery compartment cover.

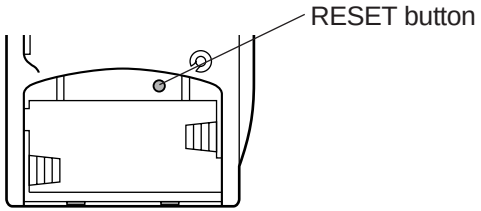
Remote control unit (for the main room)



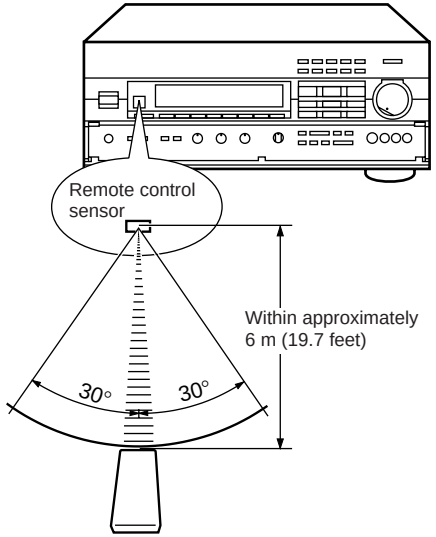
Room 2 remote control unit



* **For the remote control unit for the main room only**
After you insert batteries (or you exchange batteries with new ones), press the RESET button before using the remote control unit.



Remote control transmitter operation range



Notes

- There should be no large obstacles between the remote control unit and the main unit.
- If the remote control sensor is directly illuminated by strong lighting (especially an inverter type of fluorescent lamp etc.), it might cause the remote control unit to work incorrectly. In this case, reposition the main unit to avoid direct lighting.

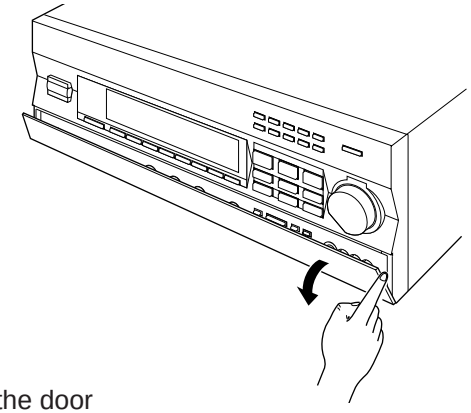
Notes about the Remote Control Unit

- When you notice that remote control operation has become erratic, or the distance from which the remote control will function has decreased, it's time to replace the batteries. Always replace all batteries at the same time.
- This remote control uses an advanced, highly directional infrared beam. Be sure to aim the remote control directly at the remote control sensor on the main unit when operating.

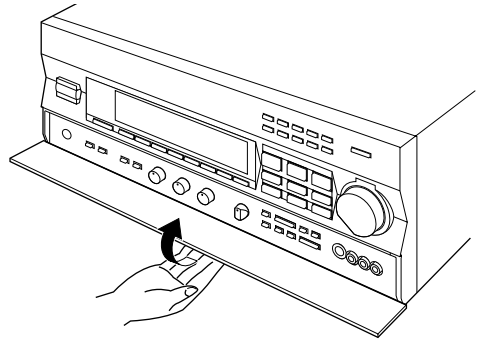
Open/close the control door

When it is not necessary to operate controls inside the control door, close the door.

To open the door



To close the door



FEATURES

This unit incorporates a sophisticated, multi-program digital sound field processor. The processor allows you to electronically expand and change the shape of the audio sound field from both audio and video sources, creating a theater-like experience in your listening room. This unit has a total of 10 digital sound field processor (DSP) modes. You can create an excellent audio sound field by selecting a suitable sound field (this will, of course, depend on what you will be listening to), and adding desired adjustments.

In addition, this unit incorporates a Dolby Pro Logic Surround decoder and Dolby Digital (AC-3) decoder for multi-channel sound reproduction of Dolby Surround encoded video sources. The operation of the Dolby Pro Logic Surround or Dolby Digital (AC-3) decoder can be controlled by selecting a corresponding DSP program including combined operations of the Yamaha DSP and the Dolby Pro Logic Surround or Dolby Digital (AC-3) decoder.

Digital Sound Field Processing

What is it that makes live music so good? Today's advanced sound reproduction technology lets you get extremely close to the sound of a live performance, but chances are you'll still notice something missing, the acoustic environment of the live concert hall. Extensive research into the exact nature of the sonic reflections that create the ambience of a large hall has made it possible for Yamaha engineers to bring you this same sound in your own listening room, so you'll feel all the sound of a live concert. What's more, our technicians, armed with sophisticated measuring equipment, have even made it possible to capture the acoustics of a variety of actual concert halls, jazz clubs, theaters, etc. from around the world, to allow you to accurately recreate any one of these live performance environments, all in your own home.

Dolby Pro Logic Surround

This unit employs a Dolby Pro Logic Surround decoder similar to professional Dolby Stereo decoders used in many movie theaters. By using the Dolby Pro Logic Surround decoder, you can experience the dramatic realism and impact of Dolby Surround movie theater sound in your own home. Dolby Pro Logic employs a four channel five speaker system. The Pro Logic Surround system divides the input signal into four levels: the left and right main channels, the center channel (used for dialog), and the rear surround sound channels (used for sound effects, background noise, and other ambient noises). The center channel allows listeners seated in even less-than-ideal positions to hear the dialog originating from the action on the screen while experiencing good stereo imaging. Dolby Surround is encoded on the sound track of pre-recorded video tapes, laser discs, and some TV/cable broadcasts. When you play a source encoded with Dolby Surround on this unit, the Dolby Pro Logic Surround decoder decodes the signal and distributes the surround-sound effects.

This Dolby Pro Logic Surround Decoder employs a digital signal processing system. This system improves the stability of sound at each channel and crosstalk between channels, so that positioning of sounds around the room is more accurate compared with conventional analog signal processing systems.

In addition, this unit features a built-in automatic input balance control. This always assures you the best performance without manual adjustment.

Dolby Digital (AC-3)

The built-in Dolby Digital (AC-3) Decoder leads you into a totally new sound experiences.

Dolby Digital (AC-3) is a new generation of multi-channel digital audio technology, or the newest spatial sound processing format developed for 35 mm film-movies by employing a new kind of low bit-rate audio coding.

Dolby Digital (AC-3) is a digital surround sound system that provides completely independent multi-channel audio to consumers. In multi-channel form, Dolby Digital (AC-3) provides five full range channels in what is sometimes referred to as a “3/2” configuration: three front channels (left, center and right), plus two surround channels. A sixth bass-only effect channel is also provided for output of LFE (low frequency effect), or low bass effects that are independent of other channels. This channel is counted as 0.1, thus giving rise to the term 5.1 channels in total.

Compared to Dolby Pro Logic that is referred to a “3/1” system (left front, center, right front and just one surround channel), Dolby Digital (AC-3) features two surround channels, called stereo or split surrounds, each offering the same full range fidelity as the three front channels.

Sound of wide dynamic range reproduced by the five full range channels presents listeners much excitement that has never been experienced before. Precise sound orientation by the discrete digital sound processing expands realism that the original movie possesses.

Laser Disc is a home audio format that could benefit from Dolby Digital (AC-3). In the near future, Dolby Digital (AC-3) will also be applied to DBS, CATV, DVD and HDTV. The ongoing release of Dolby Stereo Digital theatrical films now underway will provide an immediate source of Dolby Digital (AC-3) encoded video software.

Manufactured under license from Dolby Laboratories Licensing Corporation. “Dolby”, “AC-3”, “Pro Logic”, and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation. Copyright 1992 Dolby Laboratories, Inc. All rights reserved.

The following original functions make the surround-sound effect of Dolby Digital (AC-3) become the most suitable for your audio system and the listening conditions.

- **Dynamic range (sound scale) of source can be changed so that it will be suitable for the listening conditions.**
- **Output of low bass from any channel can be assigned to either the MAIN SPEAKERS terminals or SUBWOOFER terminals to maximize system performance.**
- **Output of LFE can be assigned to either the MAIN SPEAKERS terminals or SUBWOOFER terminals to maximize system performance.**

Dolby Surround + DSP (CINEMA DSP)

Dolby Surround sound system shows its full ability in a large movie theater, because movie sounds are originally designed to be reproduced in a large movie theater using many speakers. It is difficult to create a sound environment similar to that of a movie theater in your listening room, because the room size, materials of inside walls, the number of speakers, etc. of your listening room is much different from those of a movie theater.

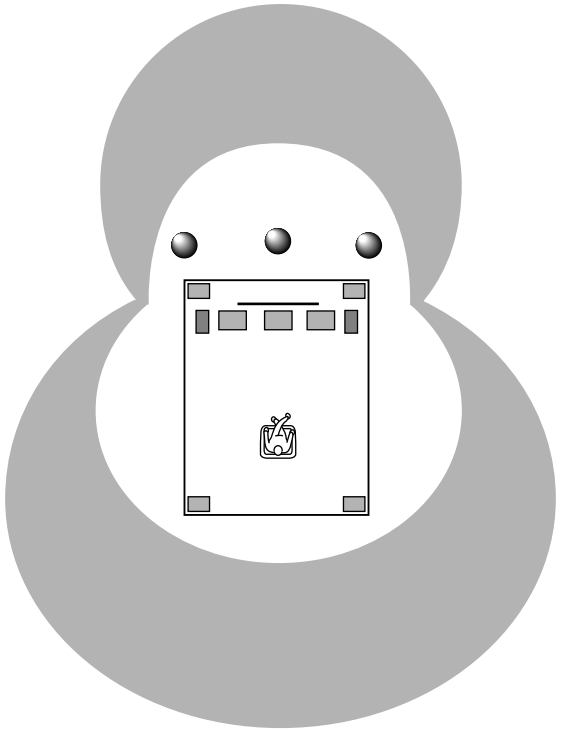
Yamaha DSP technology made it possible to present you with nearly the same sound experience as that of a large movie theater in your listening room by compensating for lack of presence and dynamics in your listening room with its original digital sound fields combined with Dolby Surround sound field.

The YAMAHA “CINEMA DSP” logo indicates those programs are created by the combination of Dolby Surround and YAMAHA DSP technology.

Dolby Pro Logic + 2 Digital Sound Fields

Digital sound fields are created on the presence side and the rear surround side of the Dolby Pro Logic Surround-decoded sound field respectively. They create a wide acoustic environment and emphasize surround-effect in the room, letting you feel much presence as if you are watching a movie in a popular Dolby Stereo theater.

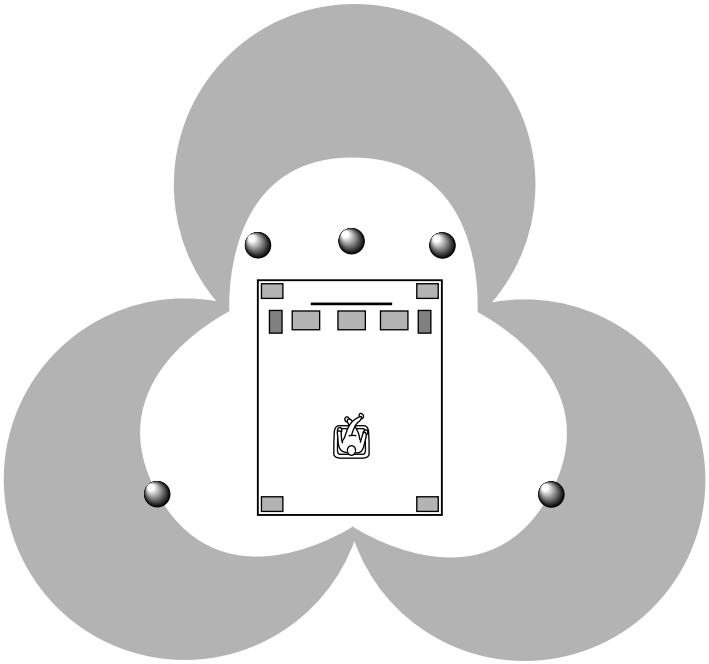
This combination is available when the sound field program No. 2, No. 3 or No. 4 is selected, and the input signal of source is analog, PCM audio or encoded with the Dolby Digital (AC-3) in 2-channels.



Dolby Digital (AC-3) + 3 Digital Sound Fields

Digital sound fields are created on the presence side and the independent left and right surround sides of the Dolby Digital (AC-3)-decoded sound field respectively. They create a wide acoustic environment and much surround effect in the room without losing high channel separation. With wide dynamic range of Dolby Digital (AC-3) sound, this sound field combination lets you feel as if you are watching a movie in the newest Dolby Stereo Digital theater. This will be the most ideal home theater sound at the present time.

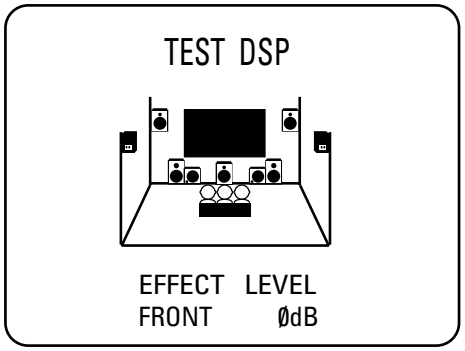
This combination is available when the sound field program No. 2, No. 3 or No. 4 is selected, and the input signal of source is encoded with the Dolby Digital (AC-3) (except in 2-channels).



Video superimpose

If you connect your video cassette recorder, LD player, video monitor, etc. to this unit, you can take advantage of this unit's capability to display program titles and information for various setting changes and adjustments on your video monitor's screen. This information will be superimposed over the video image.

If there is no video source connected or it is turned off, the information will be displayed over a blue colored background.



NOTE: The program titles and other information are also displayed on the display panel of this unit.

SPEAKER SETUP

Setting Up Your Speaker System

This unit has been designed to provide the best sound field quality with a full seven-speaker system setup, using two extra pairs of effect speakers to generate the sound field plus one center speaker for dialog. We therefore recommend that you use a seven-speaker setup. A four-speaker system using only one pair of effect speakers for the sound field will still provide impressive ambience and effects, however, and may be a good way to begin with this unit. You can always upgrade to the full seven speaker system later. In the 4 or 5 speaker system, the Digital Sound Field Processing is still performed, but the main speakers are used for both the main channels and the front effect channels.

Use of the Center Dialog Speaker Is Recommended

When playing back a source with the DSP programs No. 1 through No. 4, or when the Dolby Digital (AC-3) is decoded with any DSP program used, if the source contains center-channel signals, dialog, vocals etc. are output from the center channel. Therefore, if you want to maximize the performance of your Audio/Video home theater system, it is recommended that you use a center channel speaker.

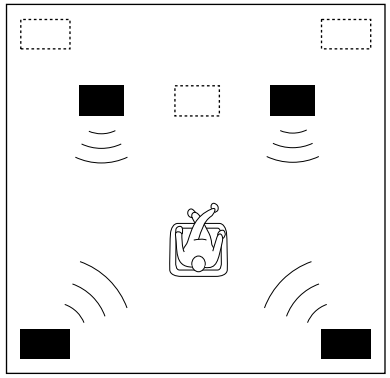
If for some reason it is not practical to use a center speaker, it is possible to enjoy movie viewing without it. Best results, however, are obtained with the full system.

Use of a Subwoofer Expands Your Sound Field

It is also possible to further expand your system with the addition of a subwoofer and amplifier. The use of a subwoofer is effective not only for reinforcing bass frequencies from any or all channels, but also for reproducing the LFE (low frequency effect) sound with high fidelity when playing back a source with the Dolby Digital (AC-3) decoded. You may wish to choose the convenience of a Yamaha Active Servo Processing Subwoofer System, which has its own built-in power amplifier.

Four Possible Types of Speaker System Configurations Recommended

4 Speaker System

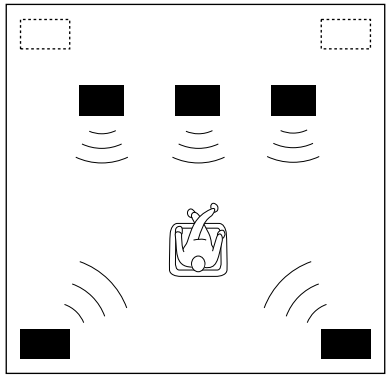


Simplest system.

You can enjoy widely diffused sound by only adding two additional speaker units at the rear.

FRONT MIX switch—Set to ON. (See page 22.)
CENTER SPEAKER—Set to PHNTM. (See page 35.)

5 Speaker System

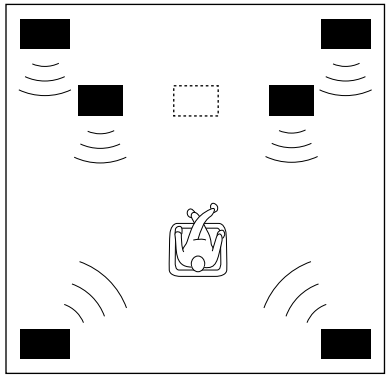


Good for Audio/Video sources.

By the use of center speaker, center sounds (dialog, vocals etc.) are precisely localized.

FRONT MIX switch—Set to ON. (See page 22.)
CENTER SPEAKER—Set to NRML or WIDE. (See page 35.)

6 Speaker System

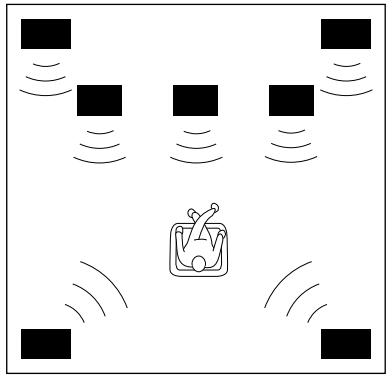


Good for sound fields from 2-channel stereo sources.

When a normal stereo source is played back with the sound field programs No. 5 through No. 10, a sound effect matching that of a 7-speaker system can be obtained. The addition of front left and right effect speakers produces a more effective sound field.

FRONT MIX switch—Set to OFF. (See page 22.)
CENTER SPEAKER—Set to PHNTM. (See page 35.)

7 Speaker System



This is the recommended speaker system, providing the best sound effects.

When a normal stereo source is played back with the sound field programs No. 5 through No. 10, using both sets of effect speakers (front and rear), reproduces the most effective sound field. When using the sound field programs No. 1 through No. 4 or when using any program with the Dolby Digital (AC-3) decoded, the center speaker provides precise center localization.

FRONT MIX switch—Set to OFF. (See page 22.)
CENTER SPEAKER—Set to NRML or WIDE. (See page 35.)

Speakers and Speaker Placement

Your full seven-speaker system will require three speaker pairs: the MAIN SPEAKERS (your normal stereo speakers), the FRONT EFFECT SPEAKERS and the REAR SPEAKERS, plus the CENTER SPEAKER. You may also be using a subwoofer.

The MAIN SPEAKERS should be high performance models and have enough power handling capacity to accept the maximum output of your audio system.

Other speakers do not have to be equal to the MAIN SPEAKERS. For precise sound localization, however, it is ideal to use high performance models that can reproduce sounds in full range for the CENTER SPEAKER and the FRONT EFFECT and REAR SPEAKERS.

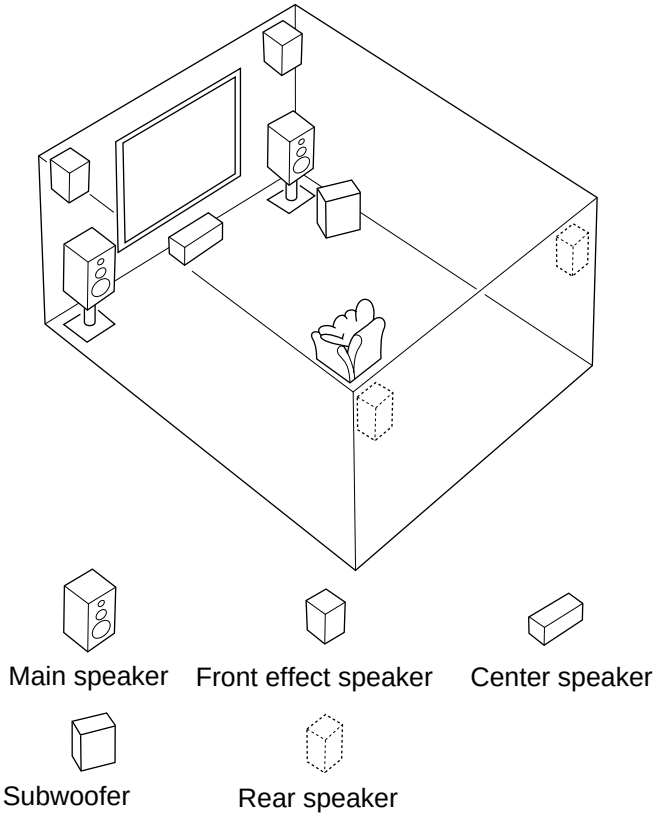
Place the MAIN SPEAKERS in the normal position.

Place the FRONT EFFECT SPEAKERS further apart than the MAIN SPEAKERS, on either side of and a few feet behind and above the MAIN SPEAKER pair.

Place the REAR SPEAKERS behind your listening position. They should be nearly six feet up from the floor.

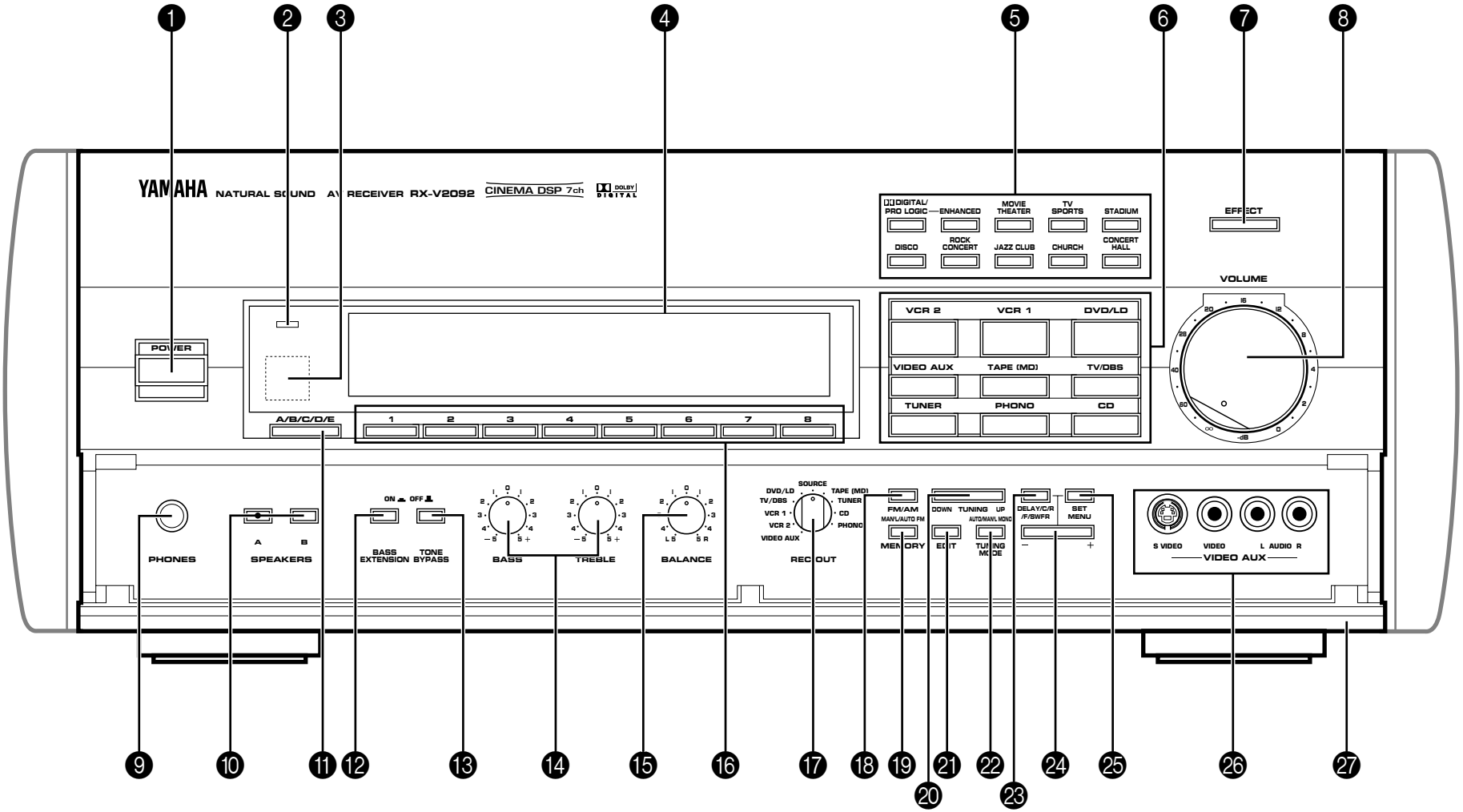
Place the CENTER SPEAKER precisely between the two MAIN SPEAKERS. (To avoid interference, keep the speaker above or below the television monitor, or use a magnetically shielded speaker.)

If using a SUBWOOFER, such as a Yamaha Active Servo Subwoofer System, the position of the speaker is not so critical because low bass tones are not highly directional.



CONTROLS & THEIR FUNCTIONS

FRONT PANEL



(General Model)

* For control keys on the remote control unit, see pages 62 to 64.

❶ POWER Switch
Turns this unit on and off.
* When you press this switch to turn the power on, you will hear a click and a sound of the built-in fan rotating for a moment.

❷ Standby Indicator (Except U.S.A. and Canada models)
While the power of this unit is on, pressing the (SYSTEM POWER) OFF key on the remote control unit switches this unit to the standby mode. In this mode, the standby indicator is illuminated.

❸ Remote Control Sensor
Signals from the remote control unit are received here.

❹ Display Panel
See pages 16 to 17.

❺ DSP Program Selector Buttons
Select a DSP program. When a button is pressed, the name of selected program lights up on the display panel.

❻ Input Selector Buttons
Selects an input source that you want to listen to (and watch).

❼ EFFECT Switch
Normally ON, this switch can be turned OFF to disable output from the center and effect speakers so that the sound becomes normal 2-channels.
* Even if this switch is off, when the Dolby Digital (AC-3) is decoded, signals at all channels are distributed to the main channels and output from the main speakers.

❽ Master VOLUME Control
Simultaneously controls volume level at all outputs: front effect, main, rear effect, center, and subwoofer. (This does not affect REC OUT level.)
* When the volume is decreased by pressing the MUTE key on the remote control unit, the indicator on the master VOLUME control flashes on and off.

❾ PHONES Jack
When you listen with headphones, connect the headphones to the PHONES jack. You can listen to the sound to be output from the main speakers through headphones.
When listening with headphones privately, set both the SPEAKERS A and B switches to the OFF position and switch off the digital sound field processor (so that no DSP program name is illuminated on the display panel) by pressing the EFFECT switch.

❿ SPEAKERS Switches
Set the switch A or B (or both A and B) for the main speakers (connected to this unit) you will use to the ON position. Set the switch for the main speakers you will not use to the OFF position. Selected main speakers are shown by the lighting of “SPEAKERS A” and/or “SPEAKERS B” on the display panel.

⓫ A/B/C/D/E Switch
Press this switch to select a desired group (A–E) of preset stations.

⓬ BASS EXTENSION Switch
When pressed inward (ON), boosts bass frequency response at the main left and right channels while maintaining overall tonal balance. If you do not have a subwoofer, the use of this switch will be effective to reinforce the bass frequencies.

⓭ TONE BYPASS switch
When this switch is pressed inward (ON), the input signal does not pass through the tone (BASS and TREBLE) control circuitry so that it is unaffected by the tone control circuitry. Use this switch to obtain pure sound and to check the tone control setting. Press this switch to release it outward (OFF) to use the tone control circuitry.

⓮ BASS and TREBLE Controls
Adjust low and high frequency response respectively for the main channels only.

⓯ BALANCE Control
Adjusts the left and right output volume to the Main Speakers to compensate for sound imbalance caused by speaker positions or listening room conditions.

⓰ Preset Station Number Selector Buttons
Select a preset station number (1 to 8).

⓱ REC OUT Selector
Selects the source to be recorded to a tape deck or VCR independently of the setting of the input selector buttons. However, when set to the SOURCE position, the setting of the input selector buttons decides the source to be recorded to a tape deck or VCR.

⓲ FM/AM Switch
Press this switch to switch the reception band to FM or AM.

⓳ MEMORY (MAN'L/AUTO FM) Button
When this button is pressed, the MEMORY indicator flashes for about 5 seconds. During this period, select a desired preset station number by pressing the corresponding preset station number selector button to enter the displayed station into the memory.
When this button is pressed and held for about 3 seconds, the automatic preset tuning begins. (Refer to page 52 for details.)

⓴ TUNING DOWN/UP Button
Used for tuning. Press the "UP" side to tune in to higher frequencies, and press the "DOWN" side to tune in to lower frequencies.

㉑ EDIT Button
This button is used to exchange the places of two preset stations with each other.

㉒ TUNING MODE (AUTO/MAN'L MONO) Switch
Press this switch to switch the tuning mode to automatic or manual. To select the automatic tuning mode, press this switch so that "AUTO TUNING" lights up on the display panel. To select the manual tuning mode, press this switch so that "AUTO TUNING" goes off.

㉓ DELAY/C/R/F/SWFR Switch
Whenever pressed, selects the item of changing delay time, center speaker output level, rear speaker output level, front effect speaker output level and subwoofer output level in turn.
* Depending on a mode of this unit, the number of selections is reduced. For example, when the built-in digital sound field processor (including the Dolby Pro Logic Decoder or the Dolby Digital (AC-3) Decoder) is off, only the item for changing subwoofer output level can be selected.

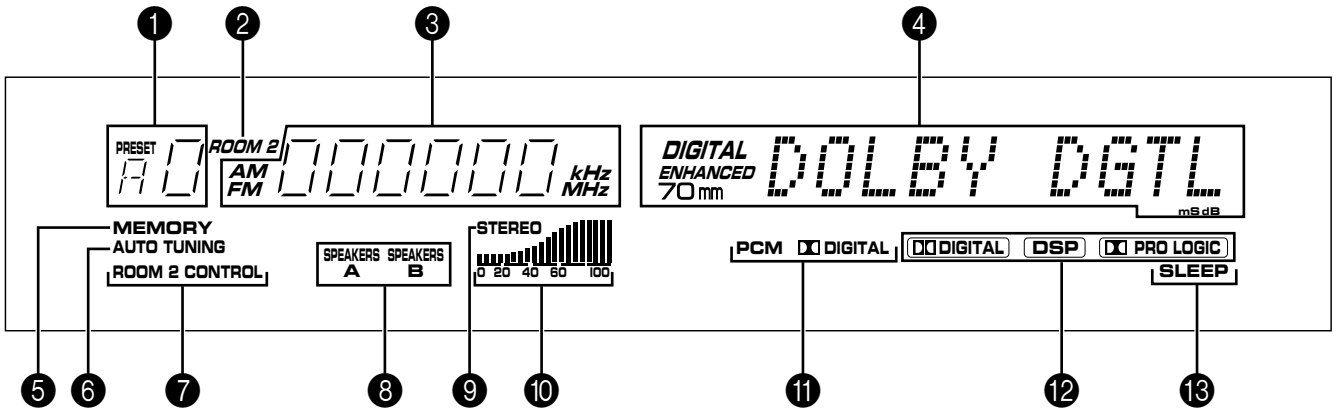
㉔ –/+ Button
Adjusts the level of item selected by pressing the DELAY/C/R/F/SWFR switch. Moreover, performs setting changes and adjustments for functions selected by pressing the SET MENU switch.

㉕ SET MENU Switch
Whenever pressed, selects functions in the SET MENU mode.

㉖ Auxiliary Input Jacks (VIDEO AUX)
Connect an auxiliary video or audio unit such as a camcorder to these jacks. If the connected video unit has a S video output terminal, connect it to the S VIDEO jack to obtain a high resolution picture. The unit connected to these jacks can be selected by the corresponding input selector button and REC OUT selector.

㉗ Control Door
See page 4 for how to open and close the control door.

DISPLAY PANEL



❶ Preset Station Number Display
Shows the selected preset station number (1 to 8) and its group (A to E).

❷ ROOM 2 Indicator
Lights up when you switch the input source for the second room by using the Room 2 remote control unit in the main room.

❸ Input Source/Station Frequency Display
Shows the currently selected input source, or the currently selected station frequency and the band (FM or AM) when this unit is in the tuner input source mode.

❹ Multi-informatiom Display
Shows the currently selected DSP program, or information for several adjustments or setting changes made on this unit.

❺ MEMORY Indicator
When the MEMORY button is pressed, this indicator flashes for about 5 seconds. During this period, the displayed station can be programmed to the memory by using the A/B/C/D/E switch and the preset station number selector buttons.

❻ AUTO TUNING Indicator
Lights up when this unit is in the automatic tuning mode.

❼ ROOM 2 CONTROL Indicator
Lights up momentarily when the Room 2 remote control unit is used in the second room.

❽ SPEAKERS A/B Indicators
The indicator A or B which corresponds to the currently selected main speakers lights up. If both main speakers A or B are selected, both indicators light up.

❾ STEREO Indicator
Lights up when an FM stereo broadcast with sufficient signal strength is received.

❿ Signal-level Meter
Indicates the signal level of the received station.
If multipath interference is detected, the indication decreases.

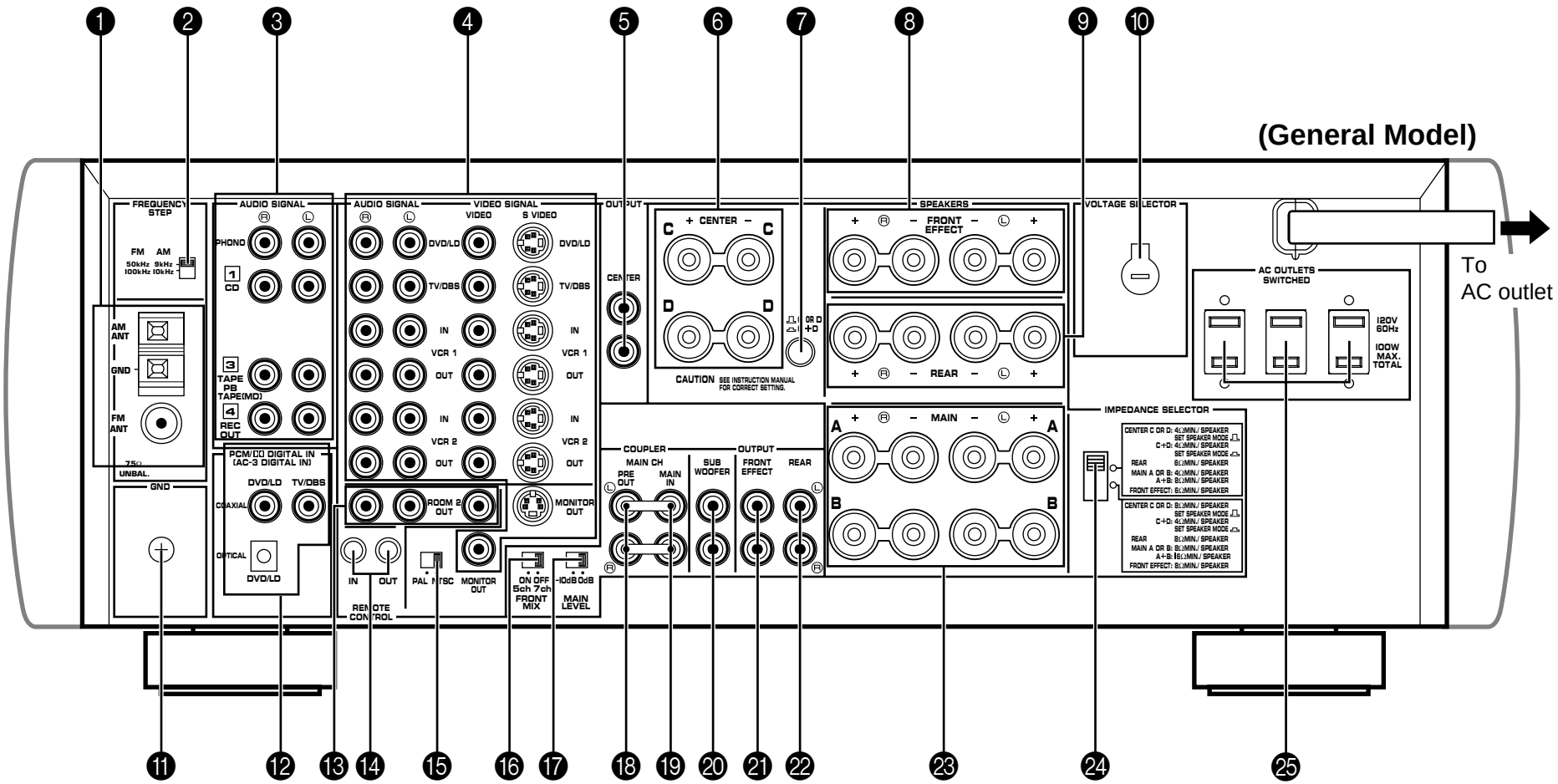
⓫ Digital Audio Input Signal Indicators
When digital audio signals not encoded with the Dolby Digital (AC-3) are input to this unit, “PCM DIGITAL” lights up.
When digital audio signals encoded with the Dolby Digital (AC-3) are input to this unit, “ DIGITAL” lights up.

⓬ DIGITAL, DSP and PRO LOGIC indicators
“ DIGITAL” lights up when the built-in Dolby Digital (AC-3) Decoder is on and the signals of selected source encoded with the Dolby Digital (AC-3) is not in 2-channels. “DSP” lights up when the built-in digital sound field processor is on, and “ PRO LOGIC” lights up when the built-in Dolby Pro Logic Surround Decoder is on. Depending on the selected DSP program, both “ DIGITAL” and “DSP”, or both “DSP” and “ PRO LOGIC” will light up.

⓭ SLEEP Indicator
Lights up while the built-in SLEEP timer is functioning.

REAR PANEL PARTS AND THEIR FUNCTIONS

Before you start making connections make sure all related electronic components are turned OFF.



❶ Antenna Connection Terminals
Connect the included indoor FM antenna to the FM ANT terminal and connect the included AM loop antenna to the AM ANT and GND terminals. To heighten safety and reduce interference, connect the GND terminal to a good earth ground. For improving reception quality, you can connect outdoor FM and/or AM antenna to these terminals (See pages 27 to 29 for details.)

❷ FREQUENCY STEP Switch (General Model only)
Because the interstation frequency spacing differs in different areas, set this switch to the position suitable for the frequency spacing in your area.
Before sliding this switch, disconnect the AC power plug of this unit from the AC outlet.

❸ AUDIO SIGNAL Connection Jacks (for Audio Source Equipment)
Connect the inputs and/or outputs of your audio equipment.

❹ AUDIO/VIDEO SIGNAL Connection Jacks (for Video Source Equipment)
Connect the audio and video inputs and/or outputs of your video equipment. In place of the VIDEO jacks, the S VIDEO jacks can be used for higher resolution and improved picture quality if your VCR, monitor, etc. are equipped with S-VIDEO connectors.

❺ CENTER OUTPUT Jacks
Center-channel line outputs. Can be connected to input jack(s) of one or two external power amplifier(s) to drive the center speaker(s).

❻ CENTER SPEAKERS Terminals
When using the built-in center-channel amplifier, connect one or two center speakers here.

❼ Center Speaker Switch
Set to “C + D” when using two center speakers, or to “C OR D” when using only one center speaker.

❽ FRONT EFFECT SPEAKERS Terminals
When using the built-in front effect-channel amplifier, connect the front effect speakers here.

❾ REAR SPEAKERS Terminals
When using the built-in rear-channel amplifier, connect the rear speakers here.

❿ VOLTAGE SELECTOR (General Model only)
Be sure to set to the line voltage in your area before applying power. Consult your dealer if unsure of the correct setting.

⓫ GND Terminal
Connects the ground wire of the turntable to produce minimum hum. In some cases, however, better results may be obtained with the ground wire disconnected.

⓬ PCM/ DIGITAL IN (COAXIAL and OPTICAL) jacks
Can be connected with audio/video units that have a coaxial or optical digital output jack. Connect a unit that is connected to the DVD/LD AUDIO/VIDEO SIGNAL connection jacks to the DVD/LD COAXIAL or OPTICAL jack.
Connect a unit that is connected to the TV/DBS AUDIO/VIDEO SIGNAL connection jacks to the TV/DBS COAXIAL jack.
* If, for example, your LD player has an AC-3 RF output jack and no digital output jack for AC-3 discrete audio signals, connect the AC-3 RF output jack to the DVD/LD COAXIAL or OPTICAL jack of this unit by way of an RF demodulator (separate purchase).

⓭ ROOM 2 OUT Jacks
These jacks output audio and video signals to the equipment in the second room. The input source selection is made using the Room 2 remote control unit. Refer to “CONNECTING AND CONTROLLING ROOM 2 EQUIPMENT” on page 38.

⓮ REMOTE CONTROL IN and OUT Jacks
The IN jack receives the commands from the Room 2 remote control unit. The OUT jack outputs the commands at the IN jack from the Room 2 remote control unit. Refer to “CONNECTING AND CONTROLLING ROOM 2 EQUIPMENT” on page 38.

⓯ Video NTSC/PAL Switch (General Model only)
Set this switch to the position corresponding to the standard that your video equipment employs.

⓰ FRONT MIX Switch
Set to “OFF (7ch)” when setting up a full 7 or 6 speaker system, or to “ON (5ch)” when setting up a 5 or 4 speaker system.

⓱ MAIN LEVEL Switch
Normally set to “0 dB”. If desired, you can decrease the main-channel output level at the MAIN SPEAKERS terminals by 10 dB by setting this switch to “–10 dB”.

⓲ PRE OUT Jacks
Main-channel line output. Connected with jumper bars to MAIN IN jacks when the built-in amplifier is used. Connected to input jacks of external stereo power amplifier (MAIN IN or TAPE PLAY jacks of integrated amplifier or receiver) when using external amplification.

⓳ MAIN IN Jacks
Line input to built-in main-channel amplifier. Connected with jumper bars to PRE OUT jacks when the built-in amplifier is used. Not connected when using an external power amplifier.

⓴ SUBWOOFER Jacks
When using one subwoofer, connect its amplifier input to either of these jacks. When using two subwoofers, connect their amplifiers to these jacks respectively.
Frequencies below 90 Hz distributed from the main, center and/or rear channels are output to these jacks.
Signals of LFE (low frequency effect) generated when the Dolby Digital (AC-3) is decoded are also output if they are assigned to these jacks.

㉑ FRONT EFFECT OUTPUT Jacks
Front-channel line output. Can be connected to input jacks of an external stereo power amplifier driving the front effect speakers.

㉒ REAR OUTPUT Jacks
Rear-channel line output. Can be connected to input jacks of an external stereo power amplifier driving the rear speakers.

㉓ MAIN SPEAKERS Terminals
This unit is equipped with 2 sets of MAIN SPEAKERS terminals to allow you to connect 2 main speaker systems to this unit. When using this unit's built-in main-channel amplifier, connect the main speakers here. The jumper bars must be plugged in to connect the MAIN IN jacks to the PRE OUT jacks.

㉔ IMPEDANCE SELECTOR Switch
Select the position whose requirements your speaker system meets.

㉕ SWITCHED AC OUTLET(S)
You may plug other audio/video units into these sockets as long as their combined power consumption does not exceed the specified value shown. "Switched" means that these components are turned on and off by this unit's power switch.

REAR PANEL SWITCH AND CONTROL SETTINGS

There are several switches and controls on the rear panel that you'll have to check before operating your system, and it's a good idea to do it before you connect cables. Locate the MAIN LEVEL slide switch (⓱) and FRONT MIX slide switch (⓰). Make sure the MAIN LEVEL switch is set to "0 dB" and the FRONT MIX switch is set to "OFF" for 7 or 6 speaker driving.

In a 5 or 4 speaker system, set the FRONT MIX switch to "ON".

For General model only, set the NTSC/PAL switch (⓯) to the position corresponding to the standard which your video equipment employs and set the FREQUENCY STEP switch (❷) to the position suitable for the frequency spacing in your area.

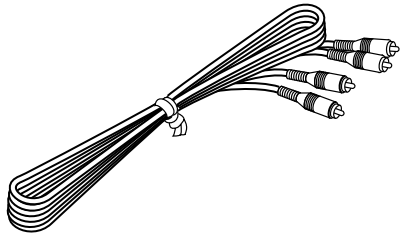
For the setting of IMPEDANCE SELECTOR switch (㉔), see page 34.

For the setting of the center speaker switch (❼), see page 32.

GENERAL INSTRUCTIONS FOR CONNECTIONS

Make sure that you have the left (L) and right (R) channels correctly connected. That means that jacks marked "L" on this unit must be connected to jacks marked "L" on other units. Likewise with the "R" jacks. This is easy if you remember to always use the red plug for the "R" jacks and the white plug for the "L" jacks.

For connections with audio/video source equipment, use RCA type pin plug cables with the exception described later.

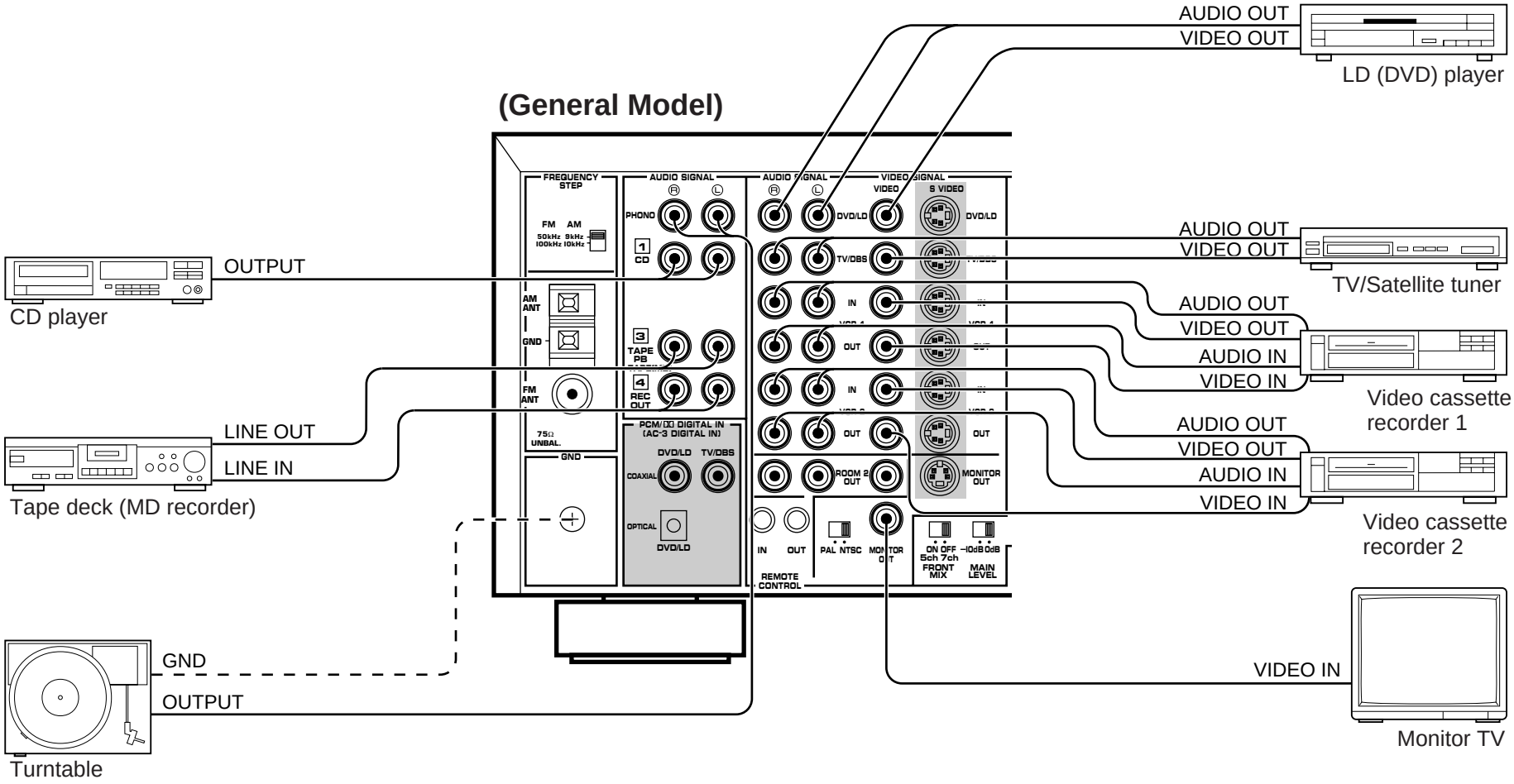


With speaker connections you must also be sure that the polarity is correct. For each amplifier and each channel, connect the plus (+) terminal of the amplifier to the plus terminal of the speaker, and connect the minus (–) terminal of the amplifier to the minus terminal of the speaker. To keep track of polarity, use a speaker cable that has one of the two wires marked by a stripe or a different color.

CONNECTING AUDIO/VIDEO SOURCE EQUIPMENT TO THIS UNIT

BASIC CONNECTIONS

* If you have YAMAHA audio/video unit numbered as 1, 3 or 4 on the rear panel, connections can be made easily by making sure to connect the output (or input) terminals of each unit to the same-numbered terminals of this unit.



* For shaded parts, see pages 24 to 26.

CONNECTING TO DIGITAL (OPTICAL AND COAXIAL) JACKS

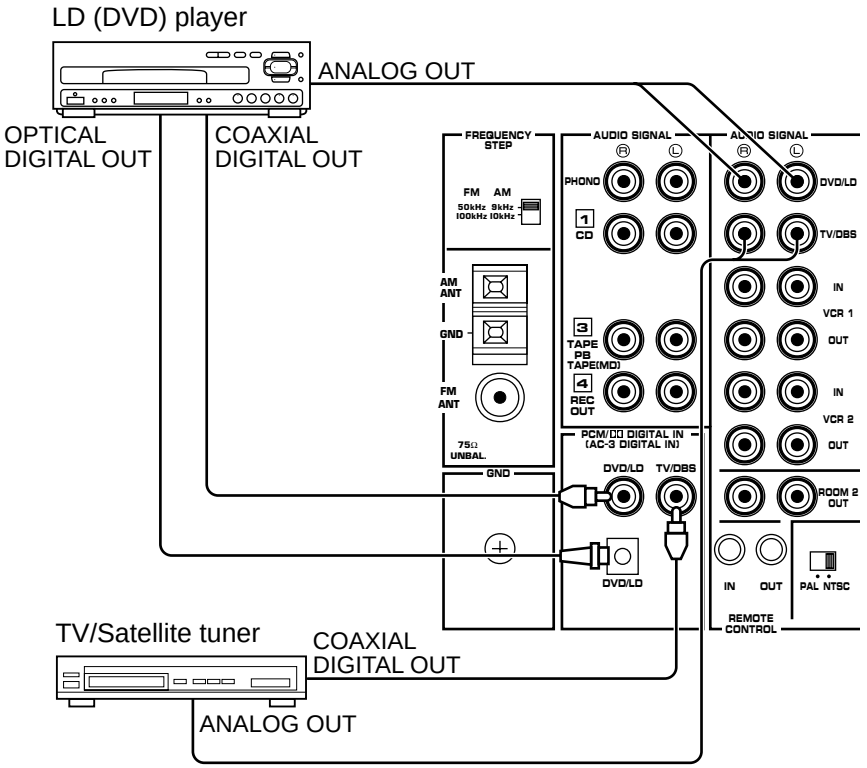
If your LD (DVD) player, TV/satellite tuner, etc. are equipped with coaxial or optical digital audio signal output jacks, they can be connected to this unit's COAXIAL and/or OPTICAL digital signal input jacks.

To make a connection between optical digital audio signal jacks, remove the cover from each jack, and then connect them by using a commercially available optical fiber cable that conforms to EIAJ standards. Other cables might not function correctly.

Even if you connect an audio/video unit to the OPTICAL (or COAXIAL) jack of this unit, you must keep the unit connected with the same named analog audio signal jacks of this unit, because digital signal cannot be recorded by a tape deck or VCR connected to this unit, and digital signal also will not be output from the AUDIO SIGNAL ROOM 2 OUT jacks. You can switch the selection of input signals between "digital" and "analog" easily. (See page 47 for details.)

NOTE: When connecting an audio/video unit to both of the digital and analog jacks of this unit, make sure to connect to both jacks of the same name.

NOTE: Be sure to attach the cover when the OPTICAL jack is not being used, in order to protect the jack from dust.



NOTE: All digital audio signal input jacks are applicable to the sampling frequency of 32 kHz, 44.1 kHz and 48 kHz.

Notes on connecting with an LD player equipped with an AC-3 RF output

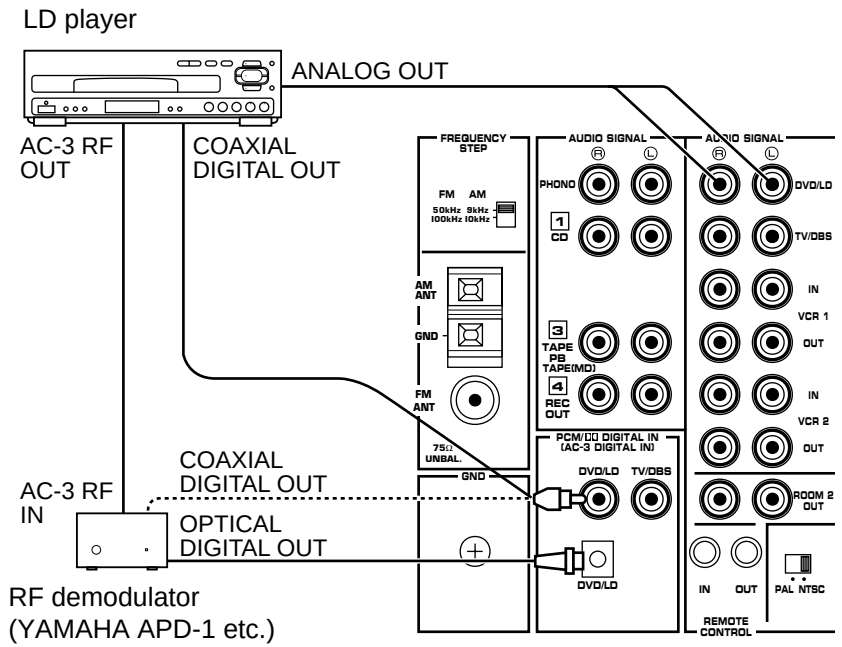
If your LD player has AC-3 RF signal output jack and no digital signal output jack for AC-3 discrete audio signals, connect the AC-3 RF signal output jack to this unit's OPTICAL (or COAXIAL) digital signal input jack by using an RF demodulator (separate purchase). First, connect the AC-3 RF signal output jack of the LD player to the AC-3 RF signal input jack of the RF demodulator. Next, connect the optical (or coaxial) digital signal output jack of the RF demodulator to the OPTICAL (or COAXIAL) digital signal input jack of this unit.
This connection is necessary for inputting audio signals encoded with the Dolby Digital (AC-3) on the LD player to this unit.

It is also necessary to connect the LD player to this unit's analog audio signal input jacks regardless of the AC-3 RF signal connection, for playing back an LD source with the Dolby Pro Logic Surround decoded or in normal stereo (or monaural).

If desired, you can also connect the digital signal output jack (for 2-channel audio signals) of the LD player to this unit. If you will do so, connect it to the COAXIAL digital signal input jack of this unit, and connect the RF demodulator to the OPTICAL digital signal input jack of this unit.
By this connection, if the input mode of the DVD/LD source is in "AUTO", you can enjoy listening to sounds decoded with the Dolby Digital (AC-3) when you play a disc encoded with the Dolby Digital (AC-3) though signals are input to both OPTICAL and COAXIAL digital signal input jacks of this unit simultaneously (because signals input to the OPTICAL jack take priority of signals input to the COAXIAL jack).
See page 47 for details about switching the input mode.

NOTES

- If, for example, you play a CD on the LD player (which can play a CD also), there is no input to the OPTICAL jack, so the signals input to the COAXIAL jack take priority. In this case, switch off the RF demodulator to listen to CD sound surely. However, if your RF demodulator is the Yamaha model APD-1, you do not have to switch it off.
- When you want to play a source encoded with the Dolby Digital (AC-3) without decoding the Dolby Digital (AC-3), you must switch off the power to the RF demodulator.



CONNECTING TO S VIDEO JACKS

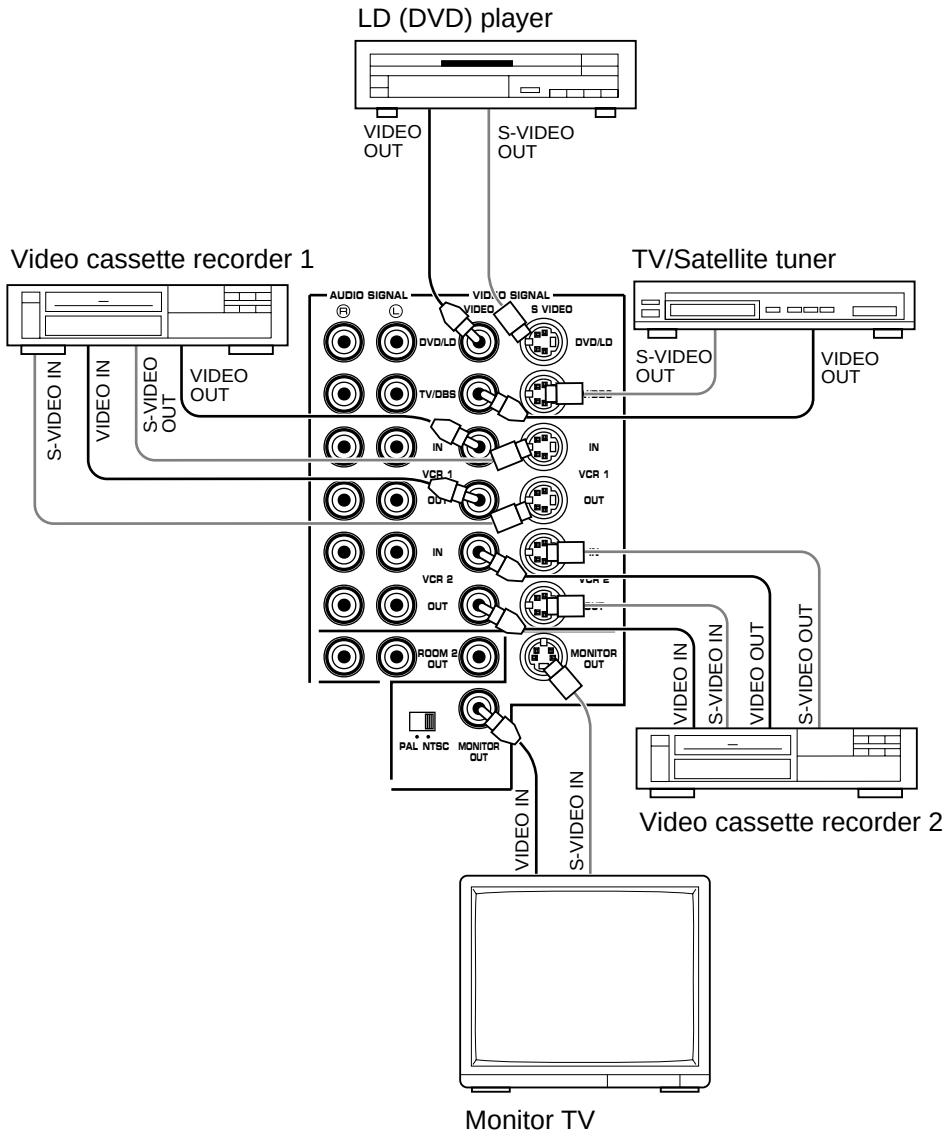
If your video cassette recorder, LD player, etc. and your monitor are equipped with “S” (high-resolution) video terminals, connect them to this unit’s S VIDEO jacks, and connect this unit’s S VIDEO MONITOR OUT jack to the “S” video input of your monitor. Otherwise, connect the composite video jacks from your video cassette recorder, LD player, etc. to the VIDEO jacks of this unit, and connect this unit’s VIDEO MONITOR OUT jack to the composite video input of your monitor.

NOTE: If video signals are sent to both S VIDEO input and VIDEO input jacks, the signals will be sent to their respective output jacks independently.

NOTE: If your unit is the General Model, be sure the NTSC/PAL switch has been correctly set to the standard that your video equipment employs. U.S.A. and Canada models have no switch and use the NTSC standard, while other models without a switch use the PAL standard.

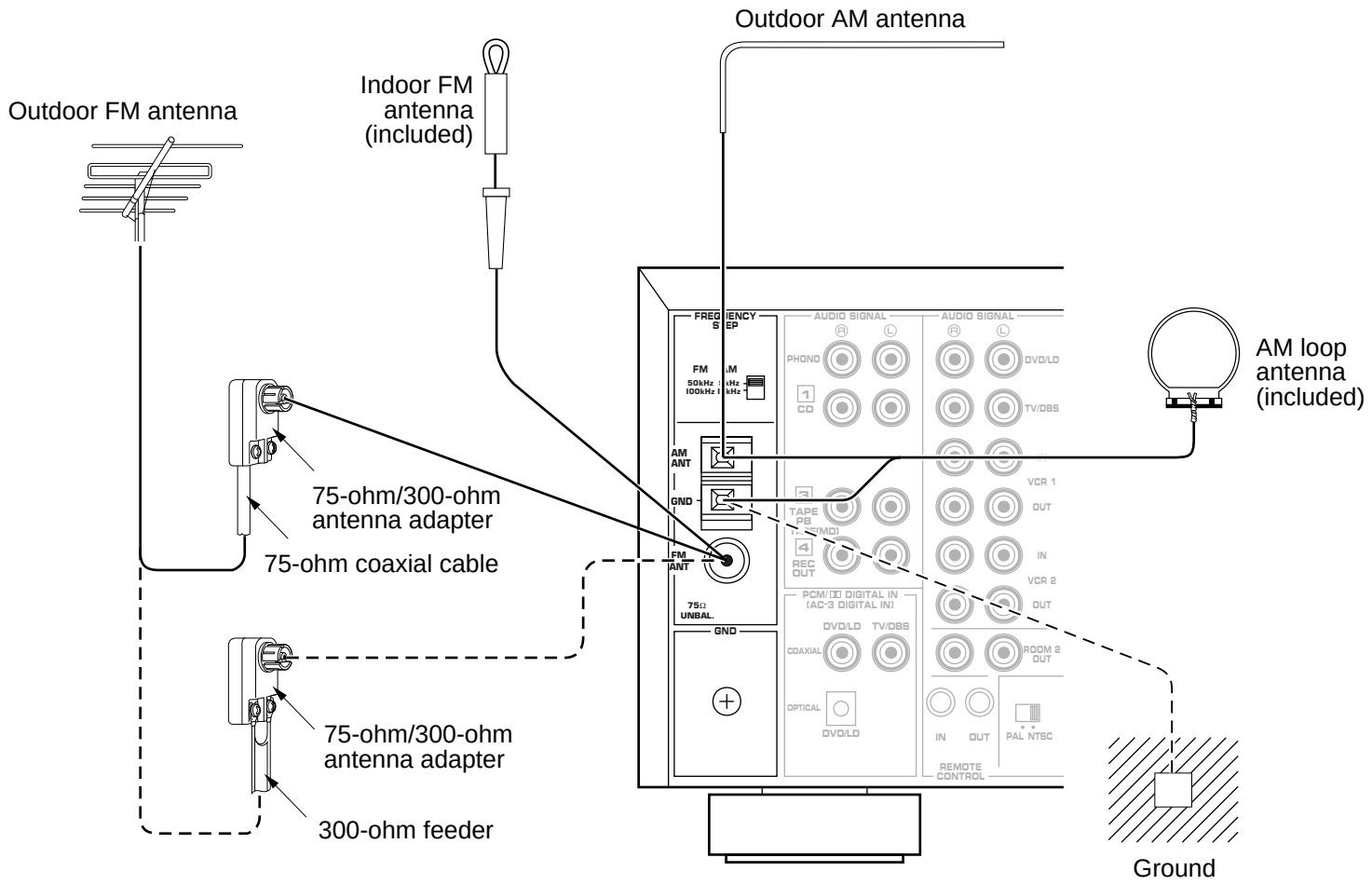
Notes about the Video superimpose

- If you watch a video source that is connected to both S VIDEO and VIDEO input jacks of this unit, signals of screen display information are output from only the S VIDEO MONITOR OUT jack.
- When no video signal is input to either S VIDEO or VIDEO input jacks of this unit, signals of screen display information are output from both S VIDEO MONITOR OUT and VIDEO MONITOR OUT jacks with a color background.
  * For the General Model, if the NTSC/PAL switch on the rear panel is set to “PAL”, nothing will be output from either S VIDEO MONITOR OUT or VIDEO MONITOR OUT jack in this case.



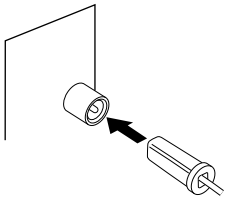
ANTENNA CONNECTIONS

- Each antenna should be connected to the designated terminals correctly, referring to the following figure.
- Both AM and FM indoor antennas are included with this unit. In general, these antennas will probably provide sufficient signal strength. Nevertheless, a properly installed outdoor antenna will give clearer reception than an indoor one. If you experience poor reception quality, an outdoor antenna may result in improvement.



Connecting the indoor FM antenna

Connect the included indoor antenna to the 75Ω UNBAL. FM ANT terminal.



NOTE

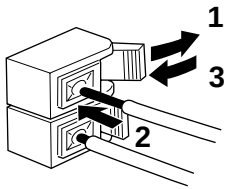
If you connect an outdoor FM antenna to this unit, do not connect the indoor FM antenna to this unit.

Connecting the AM loop antenna

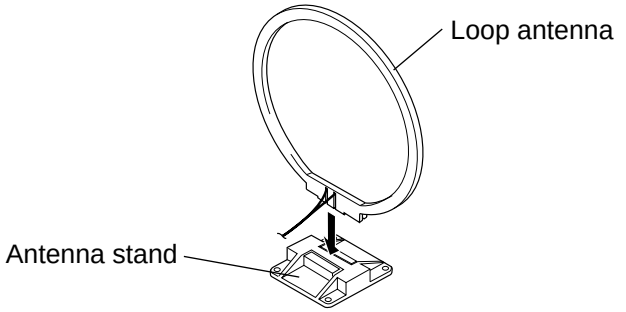
1. Press the tab and unlock the terminal hole.

2. Connect the AM loop antenna lead wires to the AM ANT and GND terminals.

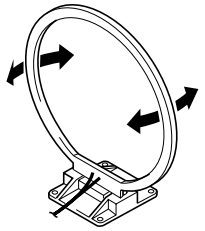
3. Return the tab back to the original position to lock the lead wires. Lightly pull on the lead wires to confirm a good connection.



4. Attach the loop antenna to the antenna stand.



5. Tune to an AM station and then position the loop antenna for best reception. Orient the AM loop antenna so that the best reception is obtained. Try other stations, and find the position that gives the best overall reception.

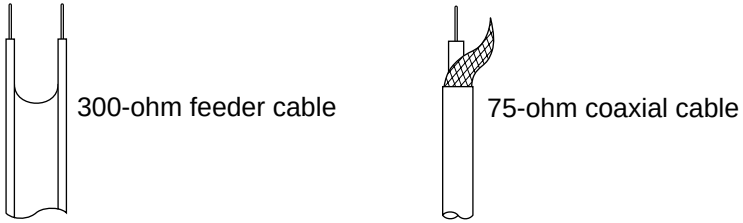


NOTES

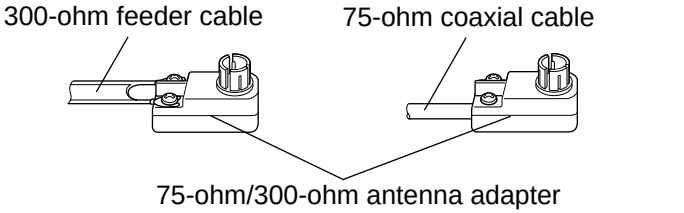
- The AM loop antenna should be placed apart from the main unit. The antenna may be hung on a wall.
- The AM loop antenna should be kept connected, even if an outdoor AM antenna is connected to this unit.

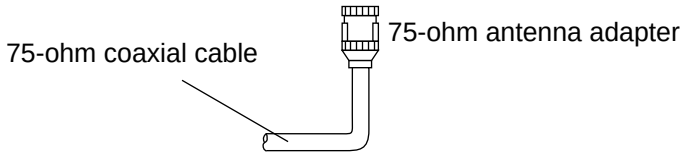
Optional outdoor FM antenna

Consult with your dealer or authorized service center about the best method of selecting and erecting an outdoor FM antenna. The choice of the feeder cable is also important. Flat ribbon-shaped twin-lead cable performs well electrically, and is cheaper and somewhat easier to handle when routing it through windows and around rooms. Coaxial cable is more expensive, does a much better job of minimizing interference, is less prone to the effects of weather and close-by metal objects, and is nearly as good a signal conductor as feeder cable, particularly for foam-type coaxial cables. Coaxial cable is somewhat more difficult to install at the point where the cable enters the building. If coaxial cable is selected, make sure the antenna is designed to be used with that type of cable.



Use a 75-ohm/300-ohm antenna adapter (not included) or a 75-ohm antenna adapter (not included) for connections.





Notes for FM antenna installation

- To minimize automobile ignition noise, locate the antenna as far from heavy traffic as possible.
- Keep the feeder cable or coaxial cable as short as possible. Do not bundle or roll up excess cable.
- The antenna should be at least two meters (6.6 feet) from reinforced concrete walls or metal structures.

Optional outdoor AM antenna

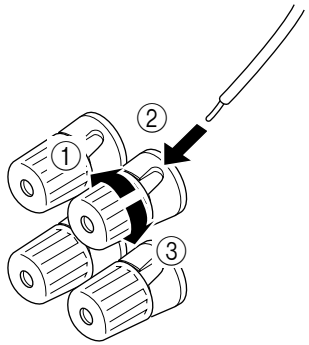
In steel buildings or at a great distance from the transmitter, it may be necessary to install an outside long wire antenna.

GND terminal
For maximum safety and minimum interference, connect the GND terminal to a good earth ground. A good earth ground is a metal stake driven into moist earth.

CONNECTING SPEAKER SYSTEMS

Connect the SPEAKERS terminals to your speakers with wire of the proper gauge, cut as short as possible. If the connections are faulty, no sound will be heard from the speakers. Make sure that the polarity of the speaker wires is correct, that is, + and – markings are observed. If these wires are reversed, the sound will be unnatural and will lack bass. Do not let the bare speaker wires touch each other or any other metal part as this could damage this unit and/or speakers.

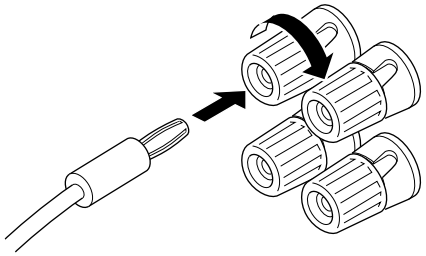
NOTE: Use speakers with the specified impedance shown on the rear of this unit.



Red: positive (+)
Black: negative (–)

① Unscrew the knob.
② Insert the bare wire.
[Remove approx. 5mm (1/4”) insulation from the speaker wires.]
③ Tighten the knob and secure the wire.

NOTE: Banana Plug connections are also possible (except Singapore model). Simply insert the Banana Plug connector into the corresponding terminal.



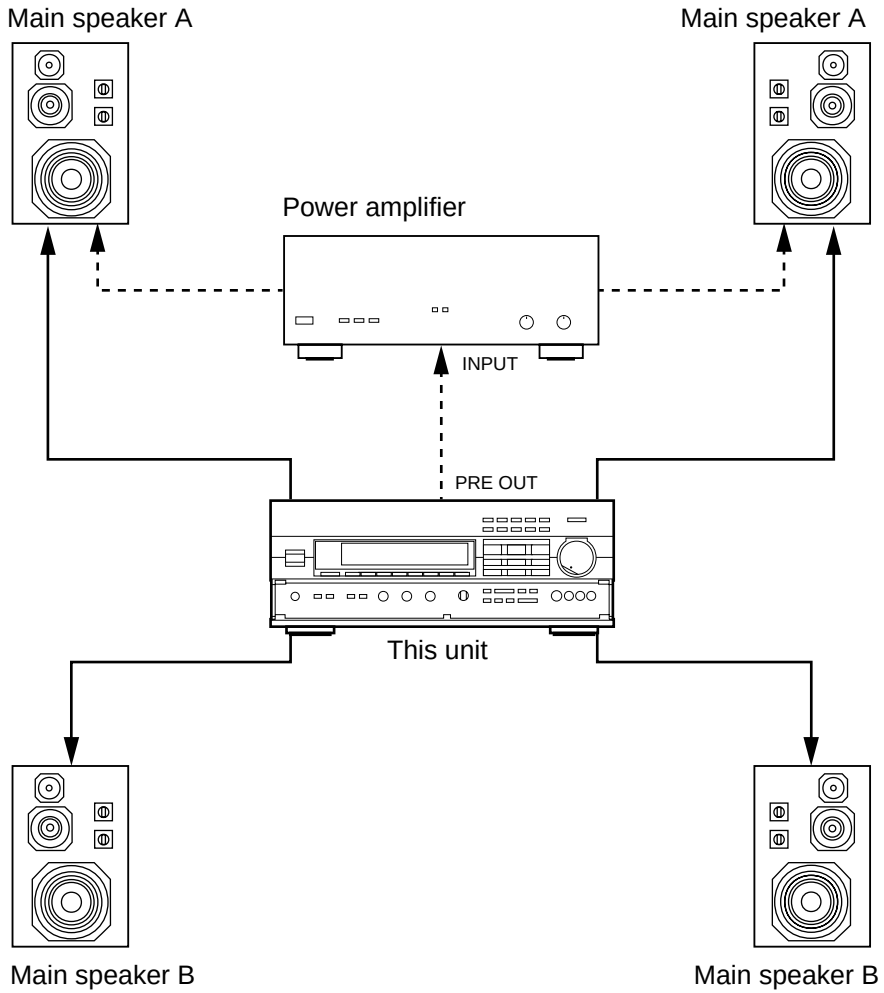
CONNECTING THE MAIN SPEAKERS TO THIS UNIT

One or two sets of MAIN speakers can be connected to this unit.

If you use two sets of MAIN speakers, connect one set to the MAIN SPEAKERS A terminals, and connect another set to the B terminals. If you use only one set of MAIN speakers, connect them to either the MAIN SPEAKERS A or B terminals. Make sure that the jumper bars between the PRE OUT and MAIN IN jacks on the rear panel are in place.

It is also possible to use an external power amplifier if more power is desired. In this case, remove the jumper bars and connect the PRE OUT jacks to the INPUT jacks of a stereo power amplifier with a stereo pin cable—making sure to connect the left and right channels correctly. Connect the MAIN speakers to the speaker output terminals of the power amplifier.

Set the SPEAKERS switch A or B (or both A and B) on the front panel corresponding to the main speakers you will use to the ON position. Set the switch for the main speakers you will not use to the OFF position. Selected main speakers are shown by the lighting of “SPEAKERS A” and/or “SPEAKERS B” on the display panel.



CONNECTING THE FRONT EFFECT SPEAKERS, REAR SPEAKERS AND THE CENTER SPEAKER(S) TO THIS UNIT

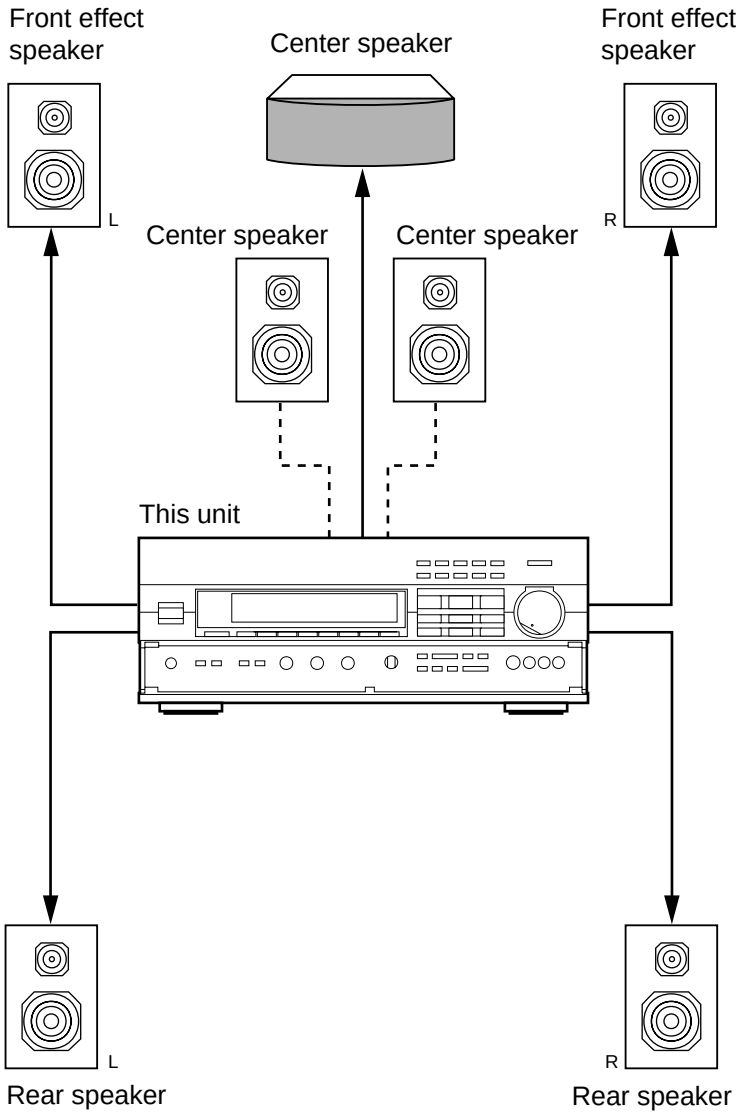
Connect the FRONT effect speakers to the FRONT EFFECT SPEAKERS terminals of this unit.

If the FRONT effect speakers are not used, the FRONT MIX switch should be set to “ON”.

Connect the REAR speakers to the REAR SPEAKERS terminals of this unit.

Connect the CENTER speaker to the CENTER SPEAKERS terminals. If you will be using one CENTER speaker, connect it to either the C or D terminals and set the CENTER speaker switch so that it is released outward (“C OR D” position). If using two CENTER speakers, connect them to the C and D terminals, and press the switch inward (“C +D” position). If, however, you will not be using a CENTER speaker, be sure to set the CENTER SPEAKER mode to “PHNTM” (phantom). (See page 35.)

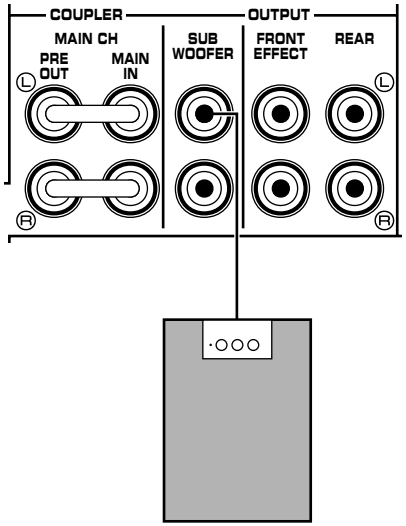
NOTE: The speaker connections above are fine for most applications. If for some reason, however, you wish to use an external power amp for any or all of the front effect, rear and center channels, connect the line level output jack(s) for each channel to the INPUT jacks of the external amp and connect the corresponding speaker pair to the speaker terminals of the external amp.



ADDING A SUBWOOFER

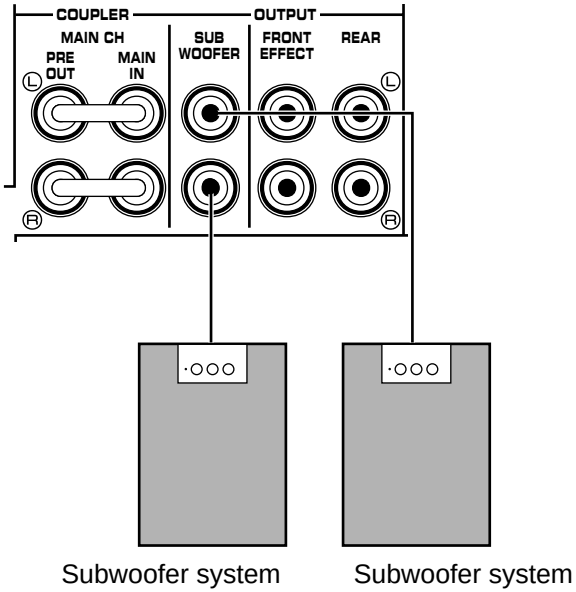
You may wish to add a subwoofer to reinforce the bass frequencies.

This unit provides line-level subwoofer outputs. If you use one subwoofer, connect either of the SUBWOOFER jacks to the INPUT jack of the subwoofer amplifier, and connect the speaker terminals of the subwoofer amplifier to the subwoofer.



Subwoofer system

If you wish to obtain more presence in your listening room, the use of two subwoofers is recommended. To connect two subwoofers to this unit, connect one SUBWOOFER jack to the INPUT jack of the amplifier driving a subwoofer, and the other SUBWOOFER jack to the INPUT jack of the amplifier driving the other subwoofer, and then connect each subwoofer to the corresponding amplifier.

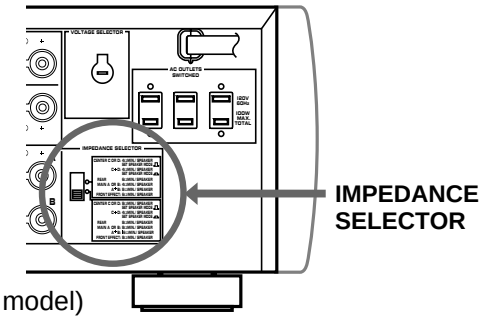


Subwoofer system Subwoofer system

With some subwoofers, including the Yamaha Active Servo Processing Subwoofer System, the amplifier and subwoofer are in the same unit.

Switching the IMPEDANCE SELECTOR switch on the rear panel

Select the position whose requirements your speaker system meets. Be sure to switch this only when the power of this unit is turned off.



(General model)

WARNING
Do not change the IMPEDANCE SELECTOR switch setting while the power to this unit is on, otherwise this unit may be damaged.

IF THIS UNIT FAILS TO TURN ON WHEN THE POWER SWITCH IS PRESSED
The **IMPEDANCE SELECTOR** switch may not be set to either end closely. If so, set the switch to either end closely.

(Upper position)

Center: If you use one center speaker, the impedance of the speaker must be 4Ω or higher.
If you use two center speakers, the impedance of each speaker must be 4Ω or higher.

Rear: (U.S.A. and Canada models:)
The impedance of each speaker must be 4Ω or higher.
(Australia, Singapore and General models:)
The impedance of each speaker must be 6Ω or higher.

Main: If you use one pair of main speakers, the impedance of each speaker must be 4Ω or higher.
If you use two pairs of main speakers, the impedance of each speaker must be 8Ω or higher.

Front effect:
The impedance of each speaker must be 6Ω or higher.

(Lower position)

Center: If you use one center speaker, the impedance of the speaker must be 8Ω or higher.
If you use two center speakers, the impedance of each speaker must be 4Ω or higher.

Rear: The impedance of each speaker must be 8Ω or higher.

Main: If you use one pair of main speakers, the impedance of each speaker must be 8Ω or higher.
(Except Canada model:)
If you use two pairs of main speakers, the impedance of each speaker must be 16Ω or higher.

Front effect:
The impedance of each speaker must be 8Ω or higher.

SELECTING THE OUTPUT MODES SUITABLE FOR YOUR SPEAKER SYSTEM

This unit provides you the following four functions to determine the method of distributing output signals to speakers suitable for your audio system. When speaker connections are all completed, select a proper position on each function to make the best use of your speaker system.

4. CENTER SPEAKER
5. REAR SPEAKER
6. MAIN SPEAKER
7. LFE/BASS OUT

DESCRIPTION OF EACH FUNCTION

4. CENTER SPEAKER

Choices: NRML/WIDE/PHNTM
Preset position: NRML

NRML (Normal):
Select this position when you use a center speaker that is smaller than the main speakers. In this position, low bass signals (below 90 Hz) at the center channel are output from the main speakers (or the SUBWOOFER jacks if the SMALL position is selected on “6. MAIN SPEAKER” and the SWFR position is selected on “7. LFE/BASS OUT”).

WIDE: Select this position when your center speaker is approximately the same size as the main speakers.

PHNTM (Phantom):
Select this position when you do not have a center speaker. The center channel sound will be output from the left and right main speakers.

5. REAR SPEAKER

Choices: SMALL/LARGE
Preset position: SMALL

SMALL:
Select this position if your rear speakers do not have a high ability for bass reproduction.
In this position, low bass signals (below 90 Hz) at the rear channels are output from the SUBWOOFER jacks (or the main speakers if the MAIN position is selected on “7. LFE/BASS OUT”).

LARGE:
Select this position if your rear speakers have a high ability for bass reproduction, or a subwoofer is connected to the rear speaker in parallel.
In this position, full range signals are output from the rear speakers.

6. MAIN SPEAKER

Choices: SMALL/LARGE
Preset position: LARGE

SMALL:

Select this position if your main speakers do not have a high ability for bass reproduction. However, if your system does not include a subwoofer, do not select this position.
In this position, low bass signals (below 90 Hz) at the main channels are output from the SUBWOOFER jacks (if the SWFR or BOTH position is selected on “7. LFE/BASS OUT”).

LARGE:

Select this position if your main speakers have a high ability for bass reproduction.
In this position, full range signals present at the main channels are output from the main speakers.

7. LFE/BASS OUT

Choices: MAIN/SWFR/BOTH
Preset position: SWFR

MAIN: Select this position if your system does not include a subwoofer.
In this position, full range signals present at the main channels, signals from the LFE channel and other low bass signals that are selected on “4. CENTER SPEAKER” to “6. MAIN SPEAKER” to be distributed from other channels are output from the main speakers.

SWFR/BOTH:

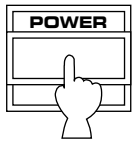
Select either the SWFR or BOTH position if your system includes a subwoofer.
In either position, signals at LFE channel and other low bass signals that are selected on “4. CENTER SPEAKER” to “6. MAIN SPEAKER” to be distributed from other channels are output from the SUBWOOFER jacks.
When the LARGE position is selected on “6. MAIN SPEAKER”, in the **SWFR** position, no signal is distributed from the main channels to the SUBWOOFER jacks, however in the **BOTH** position, low bass signals from the main channels are output to both of the main speakers and the SUBWOOFER jacks.

METHOD OF CHANGING SELECTIONS

Operations should be made watching information on this unit's display panel or the monitor screen.

1. Turn the power of this unit on. (If you want to display information on the monitor, turn the power of the monitor on.)

Front panel



If you will use the remote control unit, set the TIME/LEVEL·SET MENU switch to the SET MENU position on the remote control unit.

NOTE: Be sure to use the remote control unit with the lid open.

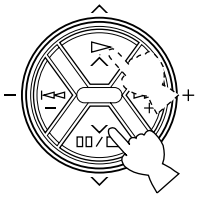
Remote control

2. Press once or more until "4. CENTER SPEAKER" appears on the display.

Front panel

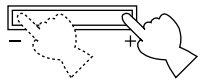
or

Remote control



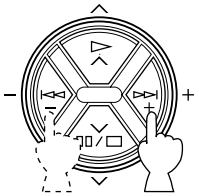
3. Press "+" or "–" once or more so that the arrow points the position you will select.

Front panel



or

Remote control

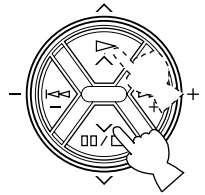


4. Press once or more until the title of another function on which you will change the selection appears on the display.

Front panel

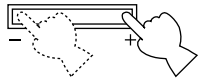
or

Remote control



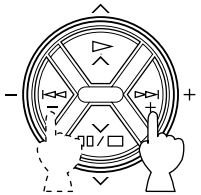
5. Press "+" or "–" once or more so that the arrow points the position you will select.

Front panel



or

Remote control



6. Repeat step 4 and 5 to change selections on other functions in the same way.

CONNECTING AND CONTROLLING ROOM 2 EQUIPMENT

You can make up a multi-room audio/video system with this unit. In this system, this unit and Yamaha audio/video units connected to this unit in the main room can be controlled by using the provided Room 2 remote control unit from the second room so that this unit sends audio and video signals (different from ones selected in the main room) to the amplifier, monitor TV, etc. in the second room.

CONNECTIONS

To use the multi-room functions of this unit, you need the following additional optional products:

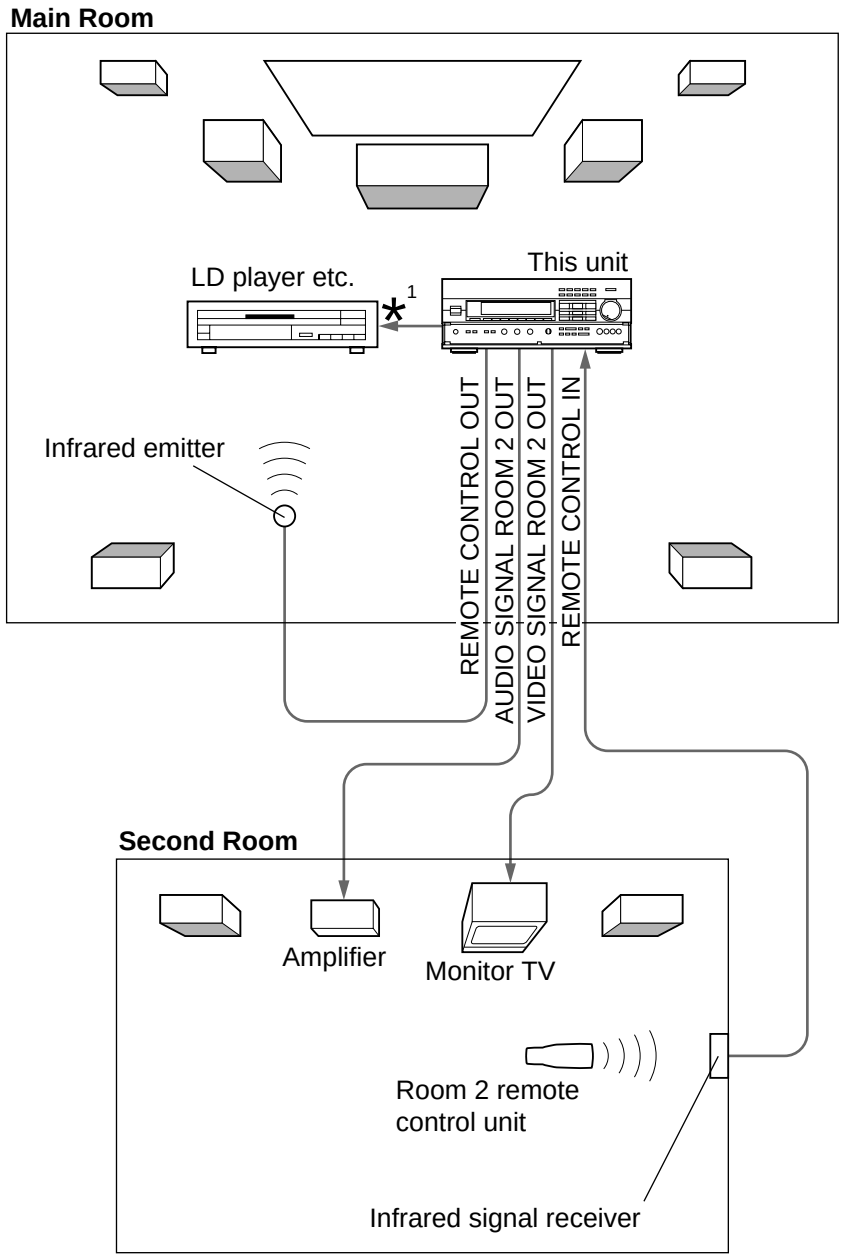
- An infrared signal receiver for the second room
- An infrared emitter in the main room
  This emitter transmits the infrared signals from the Room 2 remote control unit in the second room to the other components in the main room (for example, CD player or LD player).
- An amplifier and speakers for the second room
- A video monitor for the second room

NOTE

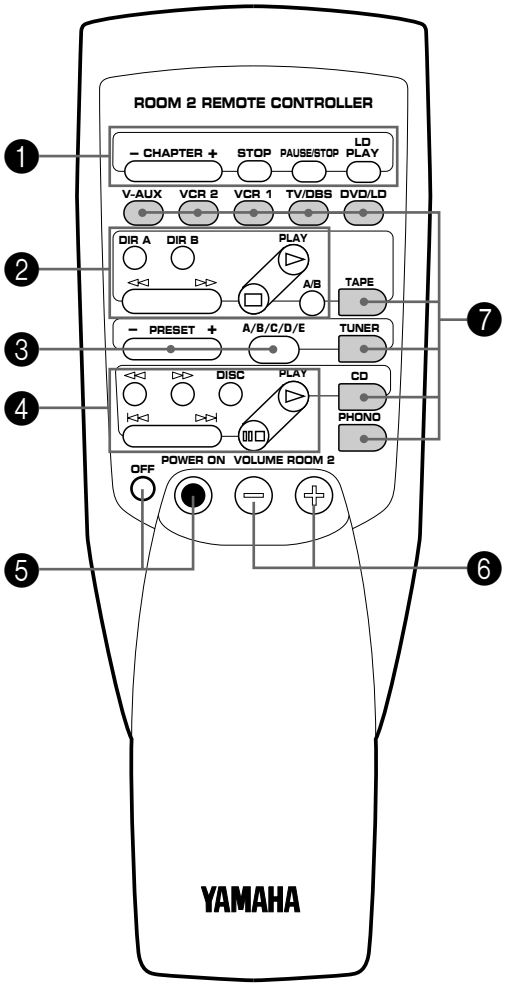
Since there are so many ways to connect and use this unit in a multi-room installation, we recommend that you consult with a custom installation specialist for the Room 2 connections which will best meet your requirements.

*[1]: Some Yamaha models are able to connect directly to this unit via the REMOTE CONTROL OUT jacks. If you own these products, the use of an infrared emitter may not be necessary.

A Sample of system configuration and connections



ROOM 2 REMOTE CONTROL UNIT



This remote control unit makes input source selections on this unit and controls Yamaha remote control-compatible CD player, tape deck, LD player and/or tuner connected to this unit for the second room independent of the input source selections for the main room.

NAMES OF KEYS AND THEIR FUNCTIONS

❶ LD player keys
Controls LD player.

❷ Tape deck keys
Controls tape deck.
* DIR A, B and A/B are applicable only to double cassette tape deck.
* For a single cassette deck with automatic reverse function, pressing DIR A will reverse the direction of tape running.

❸ Tuner keys
Controls tuner.
+: Selects higher preset station number.
–: Selects lower preset station number.
A/B/C/D/E: Selects the group (A – E) of preset station numbers.

❹ CD player keys
Controls compact disc player.
* DISC is applicable only to compact disc changer.

❺ POWER ON and OFF keys
(U.S.A. and Canada models)
Pressing the POWER ON key turns the power of this unit on and pressing the OFF key turns the power off.

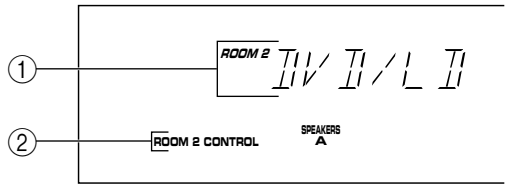
(Except U.S.A. and Canada models)
While the power is on, pressing the OFF key switches the unit from the standby mode to the standby mode, and pressing the POWER ON key switches the unit from the standby mode to the power-on mode. (In the standby mode, the standby indicator on the front panel is illuminated.)

❻ VOLUME ROOM 2 + (up) and – (down) keys
Increase or decrease the output level of signals sent to the amplifier in the second room only.

❼ Input selector keys
Selects input source.

Note on using the remote control units
If you use the Room 2 remote control unit (for the second room) in the main room, the input selector keys of this remote control unit affect the settings in the second room, not the main room. The other keys on the remote control unit work the same in both the main room and the second room.

Display panel information



① Lights up when you switch the input source for the second room by using the Room 2 remote control unit in the main room. The name of selected source also lights up.
② Lights up momentarily when the Room 2 remote control unit is used in the second room.

CAUTION
In some cases, adjustments made using the Room 2 remote control unit may not be evident on this unit. For example, if both the main room and second room are set to the tuner, it is possible for the person in the second room to change the station. This may be a problem, especially when you are taping a source without directly monitoring it.